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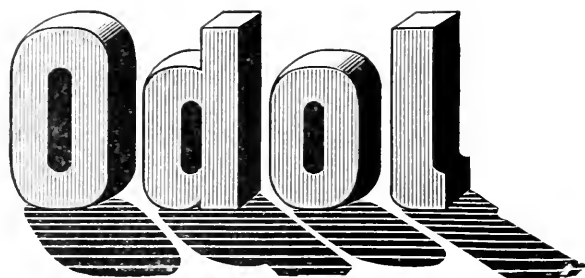
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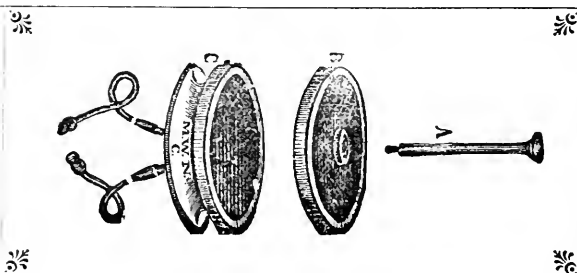
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3. The Lancet.
4. The British Medical Journal.
5. The Journal of Mental Science. London: Churchill.
6. The Glasgow Medical Journal. A. MacDougall.
7. The Medical Press and Circular.
8. Transactions of the Obstetrical Society. London: Longmans.
9. The Practitioner: a Journal of Practical Medicine and Surgery. London: Cassell and Co.
10. The Journal of Anatomy and Physiology. London: Chas. Griffin & Co.
11. The British Gynaecological Journal. London: John Bale & Sons.
12. The British Journal of Dermatology.
13. The Medical Chronicle.
14. The Birmingham Medical Review.
15. The Liverpool Medical Journal.
16. Guy's Hospital Reports. Guy's Hosp., London.
17. The Hospital. London: The Scientific Press Company.
18. The Scottish Medical and Surgical Journal.

CANADA.

19. The Montreal Medical Journal. Box 386, P.O., Montreal, Province of Quebec.

AMERICA.

20. The American Journal of the Medical Sciences. New York and Philadelphia: Messrs. Henry C. Lea, Son, & Co. London: Trübner and Co.
21. The Medical Record. New York: William Wood and Co.
22. Medical News. Philadelphia: Lea Brothers & Co.
23. The American Journal of Insanity. The Johns Hopkins Press, Baltimore.
24. The American Journal of Obstetrics and Diseases of Women and Children. New York: William Wood and Company. London: S. Low, Son, and Marston.
25. The New York Medical Journal. New York: A. R. Elliott Publishing Co.

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26. Journal of Cutaneous and Genito-urinary Diseases. New York: D. Appleton & Co.
27. The Journal of the American Medical Association. Chicago, Illinois.
28. The Occidental Medical Times. James H. Parkinson, Editor, Sacramento, California.
29. Archives of Pediatrics. New York: E. B. Treat.
30. The Johns Hopkins Hospital Reports, Baltimore, Maryland.

FRANCE.

31. Gazette Médicale de Paris. Paris.
32. Bulletin de l'Académie de Médecine Paris: G. Masson.
33. Annales Médico - Psychologiques. Paris: G. Masson.
34. Gazette des Hôpitaux. Paris: 49 Rue Saint Andre des Arts.
35. Lyon Médical, Organe Officiel de la Société de Médecine. Lyon: Louis Savy.
36. Gazette Hebdomadaire de Médecine et de Chirurgie. Paris: Masson et Cie.
37. La Presse Médicale. C. Naud. 3 Rue Racine, Paris.
38. Revue Hebdomadaire de Laryngologie, d'Otologie, et de Rhinologie. Paris et Bordeaux: Octave Doin.

BELGIUM.

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40. Archiv für Gynäkologie. Redigir. von Gusserow und Leopold. Berlin: August Hirschwald.
41. Centralblatt für die medicinischen Wissenschaften. Berlin: August Hirschwald.
42. Berliner klinische Wochenschrift. Berlin: Hirschwald.
43. Archiv für klinische Chirurgie. Berlin: Hirschwald.
44. Archiv für Psychiatrie und Nervenkrankheiten. Berlin: August Hirschwald.
45. Deutsche Medizinal-Zeitung. 21 Wilhelm Strasse, Berlin, S.W.
46. Centralblatt für klinische Medicin. Leipzig: Breitkopf und Härtel.

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47. Fortschritte der Medicin, H. Kornfeld. Berlin, W.

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53. Hospitals-Tidende. Optegnelser af praktisk Lægekunst fra Ind-og Udlandet. Kjöbenhavn: Jacob Lund. London: Asher & Co.

54. Bibliothek for Læger. Kjöbenhavn: C. A. Reitzels Forlag (Georg C. Grön).

55. Ugeskrift for Læger. Kjöbenhavn: C. A. Reitzels Forlag.

NORWAY.

ITALY.

49. Norsk Magazin for Lægevidenskaben. Udgivet af det medicinske Selskab i Kristiania. Kristiania: Paa Th. Steen.

56. Lo Sperimentale. Via San Galto, 35, Florence.

SWEDEN.

AUSTRALASIA.

50. Hygiea. Stockholm: Samson och Wallin.

51. Nordiskt medicinskt Arkiv. Stockholm: P. A. Norstedt och Söner.

52. Upsala Läkareförenings Förhandlingar. Upsala: Edv. Berling.

57. The Australasian Medical Gazette. Sydney.

INDIA.

58. The Indian Medical Record. 59 Park-street, Calcutta.

59. Indian Medical Gazette. Calcutta. Thacker, Spink, & Co.

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3. Golden Rules of Refraction. By Ernest E. Maddox, M.D., F.R.C.S. Ed. Bristol: John Wright & Co. Pp. 86.
4. Aids to Forensic Medicine and Toxicology. By William Murrell, M.D., F.R.C.P. Sixth Edition. London: Baillière, Tindall & Cox. 1903. Fcap. Svo. Pp. 110.
5. Aids to Gynæcology. By Alfred S. Grubb, M.D. (Paris); M.R.C.S. (Eng.). Fourth Edition. London: Baillière, Tindall & Cox. 1903. Fcap. Svo. Pp. 136.
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8. The Story of Alchemy and the Beginnings of Chemistry. By M. M. Pattison Muir, M.A., London: George Newnes. 1902. Pp. 185.
9. The Guide to South Africa (1902-1903 Edition). Tenth Edition. By A. Samler Brown and G. Gordon Brown. 1902. Svo. Pp. 474.
10. Semi-Annual Price List of Standard Pharmaceutical Preparations and Pharmacopœial Reagents, manufactured by E. R. Squibb & Sons, Brooklyn, N.Y. No. 89. January 1, 1903.
11. The Prize Essay on the Erection of a Sanatorium for the Treatment of Tuberculosis in England. By Arthur Latham, M.A., M.D., Oxon.; M.A., Cantab. In association with A. William West, Architect. London: Baillière, Tindall & Cox. 1903. Svo. Pp. 254.
12. Elements of Pharmacy, Materia Medica, and Therapeutics. By William Whittle, M.A., M.D. Eighth Edition. London: Henry Renshaw. 1903. Cr. Svo. Pp. 634.
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14. Bacteria in Daily Life. By Mrs. Percy Frankland. London: Longmans, Green & Co. 1903. Svo. Pp. 216.
15. The Mycology of the Mouth. By Kenneth Weldon Goadby, D.S.H., Camb.; L.R.C.P., M.R.C.S., L.D.S., Eng. London: Longmans, Green & Co. 1903. Svo. Pp. 241.
16. Cancer: its Probable Cause and its possible Prevention and Cure. By Omega. London: Watts & Co. 1903. Svo. Pp. 81.
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18. The Ambulance in Civil Life on Land and Sea. By Reginald Harrison, F.R.C.S. Fifth Issue. London: John Bale, Sons, and Danielsson. 1902. Pp. 39.
19. A Practical Handbook of Midwifery. By Francis W. Nicol Haultain, M.D., F.R.C.P.E. Second Edition. London: The Scientific Press. 1903. Cr. Svo. Pp. 253.

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J. COMPTON.

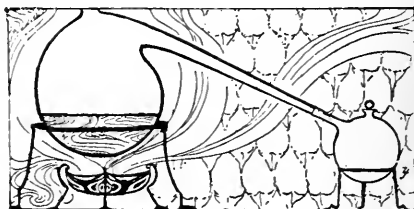
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F 102

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

FEBRUARY 2, 1903.

PART I.

ORIGINAL COMMUNICATIONS.

ART. IV.—*On Some Remote Effects of Dental Disease.* By
ROBERT H. WOODS, M.B., F.R.C.S.I.; Surgeon for Diseases
of the Throat, Nose, and Ear to the Richmond Hospital,
Dublin.

THE apathy of the public on the subject of the teeth, and its toleration of dental disease when not accompanied with pain, is largely a reflex of the attitude of our profession on this highly important subject. Our very familiarity with dental ailments has bred the inevitable contempt for them as serious conditions, and hence we have overlooked the part they play in the causation of disorders beyond their immediate neighbourhood. Their influence for evil has been further concealed by the fact that in every case a considerable interval of time elapses between the onset of the dental disease and the induction of secondary mischief. The result has been that the secondary disease was regarded as primary, and the co-existence of the primary as merely accidental.

To the eye of vulgar logic bad teeth are like shabby coats: things that had better be avoided if expense is no object, but which except for appearance do as well as the best. And it is astonishing to what an extent the question is still regarded in this purely cosmetic light, even by those whose business it is to know the right thing and practise it. Some dentists,

when consulted about carious stumps constantly ask the patient "Do they give you any trouble"?—meaning "do they cause any pain"—thus tacitly assuming, and leading the patient to think, that such teeth could have no injurious effects without the owner's knowledge. This question when put means that if the patient replies in the negative he is told to "let well alone," or "let sleeping dogs lie," and that it will be time enough to deal with them when pain comes on; and so the patient virtually adjudicates in his own case, with as little knowledge of its bearings as the man in whom he puts his trust.

Dentistry, like surgery, had its origin in a handicraft; but its evolution into a profession is so very recent that broader views are well nigh a monopoly of those who occupy its higher walks. This is probably why so many dentists regard their cases in this very narrow way. To produce efficient and not unsightly incisors and grinders is their only object, and so long as the function of mastication is satisfactorily performed their crowns, bridges, and plates may, for all they care, cover any defect or insanitation. It is no uncommon thing to find a plate fitted over a number of septic stumps, from which the crowns have been lazily cut off, and from which pus, as it escapes, is drunk by the unfortunate proprietor to the great detriment of his health. No one need wonder if in such cases indigestion and loss of appetite with their attendant evils should supervene. In some cases no explanation is given for this gross sin against the most fundamental laws of hygiene; in some, especially ladies, a feeble defence is made that extraction of the stumps would cause atrophy of the gum and sinking of the cheeks; as if this could not be compensated for by a suitable plate.

Recognition that abnormal dental conditions could have remote effects is at least as old as Hilton's time, and his classical descriptions of the reflex nervous effects which dental caries may have in the ear and other places, are too good and too well known to need repetition. But it is not so with the direct infective and pyrogenic effects. Among these enlargement and even tubercular disease of the submaxillary, the anterior cervical, and even the posterior cervical glands, is prominent. I have again and again observed in cases of enlarged cervical glands, reputed to be "constitutional,"

evidence that the infection must have come from the teeth ; and in these so-called constitutional cases one asks in vain why, on this assumption, the cervical glands are selected to the practical exclusion of other chains ? Before glands can be attacked by pyogenic or tubercular disease it is necessary that the specific organism should gain entrance to the system through some portal. It is difficult to see how bacteria can invade healthy skin or mucous membrane without leaving some trace of their invasion. Localised glandular infections argue a local superficial cause. Who, on discovering an inflamed Cruikshank's gland, would hesitate to suspect or even infer the existence of a sore on the ulnar aspect of the forearm or hand ? And when in cases of enlarged glands which draw their lymph from the mouth we find decaying roots and irritated gums, the inference is equally legitimate that the one condition causes the other. The responsibility of other causes, such as chronic tonsillitis and otorrhœa, for cervical glandular enlargement is, I know, great, but with these I am not now concerned.

It is a popular belief that diseases of the teeth are predisposed to be disorders of the stomach, but a good deal has been written lately to show that this is a "hysteron proteron," and that the part played by dental caries and purulent conditions of the gums in the causation of more remote disorders—*e.g.*, both simple and ulcerative gastritis, and simple and progressive anæmia—is a very active one. I can well believe it ; and though such cases do not come directly under my notice, I have seen enough improvement follow extraction to confirm me in this belief. In this connection I may mention the following case. A relative of my own, who for years suffered from gastric ulcer, got no permanent relief until by my advice she had all her unsound teeth removed, and since that time she has had no return of gastric pain. As well as her gastric symptoms, the glands of both anterior and posterior triangles of the neck on the left—the most carious side—were so enlarged as to require removal. It may be objected that the greater frequency of gastritis among females is against the theory of its causation by purulent mouth conditions. For though the teeth of females give way more easily than those of males, the difference is not great enough to account for the discrepancy. This is only a superficial objection, for we must bear in mind

our everyday experience that exposure to infection is not the same thing as being infected, and that into the question of liability the most complex factors, personal, racial, habitual, and sexual, enter. This much is clear: that whatever theory we adopt must fit the fact that with many cases of gastritis we find oral sepsis, and that the adoption of oral hygiene is followed by the cure of the patient.

It is not unusual for patients, especially girls, to complain of slight and constantly recurring sore throat, sometimes associated with subjective sensations about the neck, of a more or less indefinite character. In many of these cases nothing abnormal can be found except slight anæmia and infected teeth, and frequently removal of these conditions is enough to cure the patient. It may be said that the symptoms in such a case are the result of the anæmia; but it will, I think, be found that the severity is largely dependent on the degree to which the teeth are involved. In bad cases the distress may produce a veritable "globus hystericus;" and I have seen more than one such case cured by extraction of diseased stumps. Whether this is a reflex or a direct effect of the dental disease I am unable to say.

In the same category comes "functional" dysphagia—*i.e.*, without obvious organic disease—many examples of which I have seen, some, I am bound to admit, in edentulous people, but most in those with extensive dental caries and pyorrhœa. Some of these cases were so bad that no solid food had been swallowed for two years. Relief will be given to such patients by passing œsophageal bougies, but its permanence can be guaranteed only by a clearance of the stumps.

Dental caries is invariably associated with, and I believe is the invariable cause of, mycosis of the tonsil, where the crypts are filled with that cheesy, foetid *débris* which causes such discomfort to the patient, and is often an offence to his neighbour. The foetor is of the same character as that from dental caries, and the same organisms, notably leptothrix, are found in both conditions. It is hardly necessary to show how the infection travels, for everything that leaves the mouth, even to saliva, must be infected, and capable of infecting what it touches. Many of these cases are subject to recurrent slight attacks of tonsillitis, and even true quinsy. The slightest chill or exposure suffices to cause a sore throat.

Between each attack the organisms are carefully preserved in the tonsils, and anything that tends even temporarily to reduce the resistance of the body to bacterial invasion affords them an opportunity of which they would be less than bacterial if they hesitated to avail themselves. The impossibility of cleansing these ramifying chambers points to tonsillotomy as the most certain cure. But even without operative treatment I have found the tendency to attacks enormously lessened and sometimes removed by dental hygiene.

In cases of so-called nasal catarrh, where pus is discharged from one or both noses, it is safe to say that the antrum of Highmore is the commonest source of the pus; and it is equally safe to say that the commonest cause of this condition is a carious molar. I have met with several such cases where simple extraction of the offending root so improved the patient's condition that he refused to believe in the necessity for further treatment. The way in which infection travels in these cases, without attracting the patient's notice, is very easy to follow, for the molar roots normally touch, and often project through the floor of the antrum; and a root abscess, which in another place would cause a gum-boil, has room here to expand without giving rise to tension, and hence without pain. It is almost axiomatic that unless pus is under tension there will be no pain. Now, the only cases which occur to the lay mind of pus-formation are those in which the morbid product is under tension—gum-boils, whitlows, boils, &c.—and therefore it is not surprising that one's statement of a molar being the origin of pus that finds its exit through the nose is often met with the objection, "But the tooth never ached, so how could an abscess have formed?"

If a root abscess discharges into the antrum there is little reason to expect that it will ever cure itself, though I think this now and again happens. For, quite apart from the existence of caries or necrosis in or about a stump, the cavity is infected at its lowest point, and the morbid material has no chance of being eliminated until it accumulates so as to fill the antrum, when it will escape through the natural opening into the middle meatus, but only *pari passu* with the formation of fresh material below. We thus see that the quantity of pus, however small it may be at first, is imprisoned; and it needs but short consideration to see how by its continual

contact with the hitherto healthy lining membrane a secondary infection is started, which can have no tendency to limit itself; its chronicity is established, and its decomposition a matter of great probability.

I do not suppose there is to-day a rhinologist who doubts that polypoid degeneration results, and polypi will certainly develop, from a chronic purulent discharge from any of the sinuses of the nose. Some, indeed, go so far as to say that polypi have no other origin. From my own observation it is my firm conviction that the most common cause of antral empyema is infection from molar stumps, and therefore I regard neglected molars as a very usual cause of polypi. This is of no merely theoretical importance, for radical cure of polypi, which we now regard as the patient's right, is impossible while empyema exists, and cure of the empyema involves removal of the cause. That nasal degeneration—especially that form of it resulting in polypi—generally aggravates and sometimes causes asthma, I have not the slightest doubt. I have had many cases of asthma greatly relieved, and some completely cured, by the cure of polypi. And if we admit that caries can and does cause polypi, the conclusion that it may cause asthma is unavoidable. I have also traced the formation of a rhinolith and a case of that most loathsome disease, caseous rhinitis, to the same cause. Though the connection between molar caries and nasal disease is sufficiently obvious to ordinary observation, we have very valuable confirmatory evidence from the Röntgen Rays.



Here are two skiagrams from a patient who some years ago consulted me for a bad smell in his left nose. Polypi and pus were found in the left middle meatus; the right side was healthy. On examination of the left upper molar region a beautiful golden bridge was seen covering the molar and bicuspid teeth, and transillumination showed marked dulling of the malar region. I suspected that the gilding cloaked corruption; but the patient protested that he had no trouble from the dentistry, and that he could masticate the toughest food with pleasure. In this case I was very glad to be able to fall back on skiagraphy for confirmation of my belief, for it would have been awkward if I had destroyed the healthy foundations of a valuable piece of work. I therefore got Dr. Haughton to take the skiagrams for me. On the left, the affected side, the roots of the teeth are seen to be lying free in pus cavities, the cancellous tissue being destroyed round the fangs; while on the healthy side, though some teeth are wanting, the remainder are fixed naturally in the alveolus, and the bony structure is clearly seen right into touch with the teeth. I do not think it possible for anyone to doubt that the whole process started with dental caries, and that had the stumps been extracted in time, instead of having been patched, the nasal trouble would never have started. This case is no isolated one; it is an example of a type with which I am now familiar. I have many similar skiagrams, but have selected these two because the pictures are so readable, the lesion so clear, and the difference between the diseased and the sound side in the same patient so marked.

A skiagram is not necessary in the average case, but its evidence is very valuable in enabling us to determine which of a number of filled teeth is the culpable one; and in the smaller number of cases where the infection takes place through the nose the skiagram will exonerate the teeth from blame.

A gentleman was sent to me lately whose only complaint was that he had for years had an irritating, tickling cough, which was especially prone to affect him "while listening to the pianissimo passages of tenor solos, and the pathetic parts of obituary sermons." He referred the sensation to the upper part of the trachea and larynx. The throat was fairly healthy,

the larynx entirely so, and the lungs were normal to both percussion and auscultation. There was no expectoration. This was a typical case of "nervous" cough—of cough due to a neurosis. In the nose there were polypi and pus in the middle meatus. Transillumination showed well-marked dulling of the malar region, and there was no difficulty in diagnosing empyema of the left antrum. Some of his molars were actively carious, some had been extracted. On washing out the antrum through the nose very foetid pus was evacuated, and he recognised the old familiar smell—that of decaying teeth—which had been intermittently present from the onset of his symptoms some years ago. Here the polypi were the reflex cause of the neurosis, and his complaint was so completely cured by their removal that he could not make up his mind in cold blood to have the stumps and antrum treated as they ought to be. Radical cure has in this case not been performed, and I shall look for recurrence of the symptoms with interest.

I should, therefore, recommend that more attention should be paid to milk teeth, and that caries should be stopped the moment it is known to exist. In cases where the crown of a permanent tooth is beyond repair, the stump should not be crowned, unless there is reason to think the fang is healthy, and that an aseptic job can be done. Under no circumstances should a mere stump be allowed to remain in the gum, whether concealed by a plate or not. I do not deny that stumps may be present without giving rise to any apparent or palpable mischief, but they are for neither ornament nor use, and are only an element of danger. Patients who wear plates should be instructed in the necessity for frequently cleansing and sometimes boiling them, if the materials of which they are made permit the use of heat. Again, the gums should be kept in as healthy a condition as possible, and no pains should be spared to prevent pyorrhœa alveolaris.

Finally, I am convinced that, where chronic throat disorders, nasal polypi, or any other of the numerous secondary effects are present, the necessity for dental hygiene is increased, and the removal of anything that stands in its way becomes imperative.

ART. V.—*On an Outbreak of Typhus Fever.* By SIR CHARLES A. CAMERON, C.B., M.D., M. & Hon. F.R.C.P.I., F.R.C.S.I.; Professor of Chemistry and Hygiene, R.C.S.I.: Chief Medical Officer of Health for Dublin.

ON the 16th of December, 1902, a woman, aged twenty-eight years, and her infant, a girl, aged six months, were removed to Cork-street Fever Hospital from No. 56 Church-street. Dr. Garland, District Medical Officer, had diagnosticated the cases to be typhus fever. The next day two sisters, aged fourteen and seventeen, sickened, and on the following day, the 18th of December, were removed to Cork-street Fever Hospital. They, too, had contracted typhus fever. On the 19th a woman, aged thirty-eight, her daughter, aged three, and her nephew, aged thirteen, were taken from this house to hospital, and were found to be suffering from typhus fever. These facts having been communicated to me by Dr. Garland, I had all the remaining inmates, 35, removed early on the 19th to the Corporation "Refuge," Nicholas-street. They were detained there until late on the evening of the 21st of December. Their clothes were thoroughly disinfected, and whilst the purifying process was going on the "contacts" were supplied with clothes kept in the Refuge for such a purpose. All the "contacts" got warm baths, and, when they left, the Refuge was then thoroughly disinfected.

On the 19th and 20th of December, five of the "contacts" showing indications of serious illness were sent from the Refuge to hospital, where all of them soon were typhus fever patients. They were a man, aged forty, his wife, aged thirty-nine, a daughter, seven years old, another daughter of four years, and a boy, aged nine. The two girls admitted into hospital on the 18th were daughters of this man and his wife, so that on the 20th of December, seven members of this family out of a total of ten were in hospital. Subsequently the number was increased to eight. On the return of the "contacts" to Church-street, an infant, aged fifteen months, the youngest of the family of ten, above referred to, was brought to hospital, and was found to be affected with the fever. The father and mother died on the 31st of December.

On the 1st of January, 1903, a woman, aged sixty, and on

the 2nd of January another woman, aged sixty, both residents in the same room, were removed from the house to hospital; one had typhus fever, the other, we may take it, had the same disease, but as she died soon after admission, the case was doubtful. The other woman died on the 15th of January, 1903. By the 2nd of January fifteen persons had been admitted to hospital, or more than one-third of the inmates (42) of 56 Church-street.

On the 19th of January a child affected with typhus fever was removed to hospital.

Immediately after the removal of the inmates from the infected house a large number of disinfectors, whitewashers, and charwomen were set to work on it. All the wall paper of the rooms that were provided with wall paper was removed and the walls were whitewashed. The walls of the other rooms and of the stairs and hall were similarly treated. The whole house was disinfected by means of spray of mercuric chloride of double the usual strength, having 1 part in 500 parts of water, and with formalin vapour. No fewer than 1,000 tablets of formalin were employed. A second disinfection was performed with sulphurous acid. The floors and woodwork were thoroughly washed with disinfecting soap and hot water. The sewers and w.c. were flushed with a disinfecting solution. The adjacent atmosphere was purified by sulphurous acid liberated in a gaseous form from the liquefied gas.

As it was desirable that the inmates should return to their dwellings as soon as possible, and as their number was too large to be properly accommodated at the Refuge, the disinfectors and whitewashers were kept at work the greater part of Friday and Saturday nights, as well as on Sunday. Mr. Henry Egan, Superintendent of Disinfection, was indefatigable in getting the work of purification carried out, and in the removal of the "contacts" to and from the Refuge. I spent a considerable time at the house and Refuge.

Food for the "contacts" was supplied by Mr. Nally, Assistant Secretary; and he gave compensation to some of them, who were prevented from carrying on their usual occupations. The money expended for this purpose, and also in compensation for the destruction of certain infected articles, amounted to £11 3s. 6½d., the "overtime" pay to the dis-

infectors, lime-washers, &c., amounted to £11 7s. 7d., so that the epidemic cost the Public Health Committee £22 11s. 1½d.

On the 26th of December, a girl residing in a house in Upper Abbey-street, was admitted into Cork-street Hospital, and was found to be in typhus fever, and on the same day the Adelaide Hospital received another typhus fever patient, a man. Both patients had no doubt contracted the disease from two girls who resided in 56 Church-street, and who are now in Cork-street Hospital. It appears that the three girls worked together in one room in a factory, and that the male patient was the clerk or overseer in charge of the room. Thus it will be seen that 18 cases of fever must be charged to 56 Church-street.

The rooms occupied by the persons who had been removed to hospital after the return of the "contacts" from the Refuge were disinfected, but I did not think it necessary to bring the other inmates back to the Refuge as I felt sure that the patients had been infected before the 19th of December. The late Dr. Murchison considered that the usual period of incubation of the disease was 12 days, but it might be several days longer.

No. 56 Church-street is a house of 4 stories and has no underground rooms. It contains 14 rooms, of which 4 are closets.

The ground floor had two rooms and a closet, with a total of 2,962 cubic feet; they were occupied by seven persons—a man, his wife, and four of their children, aged 18, 15, 13, and 9 years, and a nephew, aged 15.

As the by-laws relating to houses occupied by more than one family require 400 cubic feet for adults and 200 for children, the space was in excess of the requirements. No case of fever occurred in these rooms. As the house was built partially over a gateway there were fewer rooms on the ground floor than in the upper stories.

The first floor comprises two front rooms and two back ones: A closet was in connection with one of the latter. The right hand front room contains 1,495 cubic feet; to the rear of it a room and closet together contain 1,589 cubic feet = a total of 3,084 cubic feet. One family occupied these apartments; it consisted of a man, his wife, his wife's mother and seven children, aged 17, 14, 12, 9, 7, 4 and 1½ years. The

wife's mother and two girls slept in the front room, and the remaining seven persons in the back room and closet; in the latter case there was overcrowding. Eight members of this family were attacked by typhus fever.

The second front room has 1,200 cubic feet, and was occupied by five persons—a man, his wife, aged 33, a child (girl) aged 3, a boy, aged 5, and an infant. The mother and the girl contracted typhus fever, and were removed to hospital on the 18th of December. On the 19th of January the boy, aged 5 years, was removed to Cork-street. He had typhus fever. He may have been infected by the woman who was ill with the fever on the 1st of January. All the families on this floor were again removed to the Refuge, and disinfection of all the rooms was going on at the time of writing.

The second back room has 754 cubic feet, and accommodated two inmates (old women).

On the second floor there were 4 rooms and a closet. The right-hand side front room has 1,340 cubic feet of space. It was occupied by a man and his wife. They had ample cubic space. The other front room has 1,223 cubic feet of space. There were in it a man and wife and a child aged 5 years. The back room and adjoining closet were occupied by a woman and her adult son. They had 1,389 cubic feet. The second back room has 600 cubic feet and one inmate—an old woman. The top story comprises 4 rooms and a closet. The right-hand side front contains 1,446 cubic feet; it was occupied by a woman and her adult son. The other front room had 1,233 cubic feet, and was occupied by two elderly women. Both were admitted to Cork-street Hospital and died there. The back room and closet contained 1,389 cubic feet. Its occupants were a man, his wife and infant daughter, aged 6 months. The mother and her infant were the first cases admitted to hospital. The second back room has 600 cubic feet. Its inmates were a woman, her son, aged 15, and her daughter, aged 9.

The ground floor had one family of 7 persons; no case of illness.

The first floor had 3 families, comprising 17 persons, of whom 11 had fever. There was some overcrowding on this floor.

The second floor had 4 families, including 8 persons. No case of fever occurred amongst them.

The top story had 4 families, comprising 10 individuals. There was overcrowding in one room, but no case of fever occurred in that room. On this floor 5 cases of fever occurred.

| | |
|----------------------------------|----|
| Total number of families | 13 |
| „ „ individuals | 42 |
| „ „ cases of fever | 16 |

The inmates of this fever-stricken house were, on the whole, very poor. Many of the men were day labourers; several of the women did charring. Two were engaged in making match boxes. One woman sold apples in the street. Several had been unemployed for some time. One man, who said he was a house painter, but, I believe, was only what is called a handy man, occupied, together with his family, a single room, for which he paid 1s. 6d. a week.

There was in two of the rooms some overcrowding, but the real overcrowding was, so to speak, that of families. When 13 families occupy 14 rooms and 4 closets in a house having a narrow hall and stairs, it is easily understood how rapidly infectious disease will spread throughout it. On each lobby the four doors were quite close to each other, and two persons could scarcely pass on the stairs without coming into contact with each other. Steps will be taken to reduce the number of families in this house. In hundreds of cases the number of families has been limited in the Dublin tenement houses. It is fortunate that the disease did not extend to other houses in the neighbourhood of 56 Church-street. This was probably due to the quick removal of both the sick and the sound from the house and its thorough disinfection.

In conclusion, it seems probable that poverty, overcrowding of some rooms, and the locating of too many families in an ill-ventilated house caused this outbreak of typhus fever.

ART. VI.—*A Case of Amenorrhœa.*^a By JOHN KNOTT, M.A., M.D., Ch.B., and Dip. Stat. Med. (Univ. Dub.) ; M.R.C.P.I. ; M.R.I.A., &c., &c.

SOME few years ago, when in daily attendance on an English lady, then resident in one of the suburbs of Dublin, a niece of my patient came to stay with her on a visit of some months' duration. There arose at that date something of a small-pox scare, and the young lady expressed a wish to be vaccinated : this small operation was performed—with a successful result. During the progress of the case I had, of course, an opportunity of ascertaining the general state of her physical health. She was a perfect picture of vigorous activity, well developed in every direction, taking daily a great deal of outdoor exercise—walking, cycling, tennis, and such-like—with the highest spirits and keenest sense of enjoyment, while displaying an excellent appetite and an unimpeachable digestion. Under these conditions, I confess to having felt a good deal startled on learning that she had not menstruated during the previous five years ; and the history of the case rather increased than diminished the surprise produced by the first announcement of the fact. She had had an attack of typhoid fever five years before. She was then in London, and had the best advice. She was treated with the "ice-pack" at an early date of her illness, as the temperature was running up rapidly, and when this treatment was first applied, some menstrual (? menorrhæal) flow had shortly before appeared. The ice-packing had the double effect of checking the menstrual flow and of lowering the temperature. Recovery was perfect, after a moderately long convalescence ; but the patient never saw a trace of menstrual discharge afterwards. When I questioned her as to her feelings on the subject, she told me, rather curtly, I thought, that she had "not the least wish ever to see it again." I daresay that she began to suspect that I "meant business ;" but my inquiries were really actuated merely by knowledge of the anxiety which such suppression usually seems to cause. However, this young lady felt no such trouble of mind.

^a Read before the Section of Obstetrics in the Royal Academy of Medicine in Ireland, on Friday, November 28, 1902.

The peculiar history led me to think that the case might not be wholly unworthy of a few minutes' attention from the Obstetrical Section of the Royal Academy of Medicine in Ireland. I have noted the records of very many cases of curious anomalies of the mysterious phenomenon of menstruation; and a mysterious phenomenon it surely still remains, even in presence of all the available scientific search-lights of the twentieth century. Cases have been reported in which the discharge appeared at birth. At least one has been published in which it did not commence till the seventy-fifth year. In a case recorded by Blancardi, the patient was still actively engaged in menstruating at the age of 106 years. But I have not been able to find a case exactly similar to the one which forms the subject of this communication. To me the specially surprising features were the *perfect health* and the *utter absence of menstrual molimina* which had continued throughout the whole period.

INDIAN MEDICAL SERVICE.

THE Military Secretary, India Office, has forwarded the following list of the candidates for His Majesty's Indian Medical Service who were successful at the Competitive Examination held in London on January 13th, 1903, and following days :—

| | Marks |
|--|-----------------|
| 1 C. S. Parker, M.B. (Lond.), M.R.C.S., L.R.C.P. | - 3,413 |
| 2 F. N. White, M.B. (Lond), M.R.C.S., L.R.C.P. - | - 3,068 |
| 3 T. C. Rutherford, M.B., B.S. (Durham), M.R.C.S., L.R.C.P. | - - - - - 3,037 |
| 4 D. Heron, M.B., B.Ch. (Edin.) - - - | - 3,018 |
| 5 L. Reynolds, B.Ch. (Camb.), M.R.C.S., L.R.C.P. | - 2,987 |
| 6 H. H. Broome, M.B., B.Ch. (Edin.) - - | - 2,940 |
| 7 C. G. Seymour, M.R.C.S., L.R.C.P. - - | - 2,930 |
| 8 E. C. Taylor, M.B., B.Ch. (Camb.) - - | - 2,890 |
| 9 D. P. Gail, M.B., B.Ch. (Edin.) - - - | - 2,865 |
| 10 H. C. Keates, M.B., B.S. (Lond.) - - - | - 2,860 |
| 11 R. A. Needham, M.B., B.S. (Vict.), M.R.C.S., L.R.C.P. | 2,827 |
| 12 J. Kirkwood, M.B., B.Ch. (Edin.) - - | - 2,812 |
| 13 A. Whitmore, M.B., B.Ch. (Camb.) - - | - 2,782 |

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Selected Papers on Operative and Clinical Surgery. By the late WILLIAM STOKES, M.D., M.Ch. (Univ. Dub.), F.R.C.S.I., Knt. : Surgeon-in-Ordinary to Her Majesty Queen Victoria in Ireland ; Surgeon to the Meath Hospital and Co. Dublin Infirmary ; Professor of Surgery, Royal College of Surgeons ; Ex-President of the Royal College of Surgeons, &c. Edited by WILLIAM TAYLOR, B.A., M.B. (Univ. Dub.), F.R.C.S.I. ; Surgeon and Lecturer on Clinical and Operative Surgery, Meath Hospital and Co. Dublin Infirmary ; Visiting Surgeon Cork-street Hospital ; Member of the Council and Demonstrator of Anatomy, Royal College of Surgeons, Ireland ; Fellow and Member of the Councils of the Surgical and Anatomical Sections Royal Academy of Medicine, Ireland. With a Memoir of the Author by ALEXANDER OGSTON, M.D., Regius Professor of Surgery, University of Aberdeen : Surgeon-in-Ordinary to the King in Scotland. London : Baillière, Tindall & Cox. Dublin : 16 Lincoln-place. 1902.

THIS peculiarly interesting and instructive addition to our surgical literature contains a series of thirty-six contributions, published, at various intervals of his professional career, by the late Sir William Stokes, who heroically laid down his life in the service of his country in the recent South African struggle. We must qualify this description, however, by noting that the last two numbers of the series represent complex entities. The thirty-fifth consists of a number of "Occasional Addresses," and the thirty-sixth includes two "South African Papers."

The present selection from the sum total of Stokes's original contributions to the surgical knowledge of his contemporaries has been judiciously made and ably edited by his former pupil and subsequent colleague at the Meath Hospital—

Mr. William Taylor, F.R.C.S.I.—whose professional record so far as it has hitherto been registered, bids fair to rival that of his distinguished master. To those who are acquainted with the professional attainments, the scholarly acquirements, and the cultured literary and æsthetic tastes of the late Sir William Stokes—as we feel sure that most of our readers throughout the world must, necessarily, be—it is superfluous to say that they will find in this volume some of the most valuable and inspiring contributions to the surgical literature of the past generation. The volume has—very appropriately—been published by the eminent firm of Messrs. Baillière, Tindall & Cox, which has so long been intimately connected with the professional literature of Ireland; and, it is hardly necessary to add, has been produced with their characteristic good taste in the selection of type, paper, and binding.

The text proper is preceded by an appreciative memoir from the pen of Professor Alexander Ogston, M.D., of Aberdeen, the youthful companion of his—their—mutual “Wanderjahre,” and his subsequent life-long friend and admirer. We specially recommend the perusal of this “Memoir” to the junior members of our profession as an inspiring lesson in surgical biography. It shows what the ambition of a noble-minded professional man should be, and what the mutual relationship of two of the intellectual giants of surgery has been. We know of no better moral lesson than that which is furnished in its pages.

The whole of the series of papers included in this volume illustrate Stokes’s lofty and successful ambition of being a pioneer in all the regions unexplored, or too little explored, of surgical practice. The first chapter deals with “Aneurysm,” and illustrates his devoted efforts to give the last chance of relief to some of the victims of this deadly and painful morbid condition. He was, as many of our readers must have already remembered, one of the few early enthusiasts who ventured to deligate the abdominal aorta. Although the ultimate result was unsatisfactory, the procedure gave the patient the only chance which could be offered; and the fatal issue was surely due to no deficiency of care or skill on the part of the operator. The second chapter deals with the interesting, and

very troublesome, "Rhinoplastic Operation," and gives every available information on the subject. One of the illustrations (Plate IV.) shows a somewhat modernised reproduction of the *Icon Octaa* (sic) of the famous "*De Curtorum Chirurgia per Insitionem*" of Gaspar Tagliacozzi, which appeared in Venice in 1597, and the original procedure of whose author was first carried out in this country by Stokes.

But it would be impossible, within the necessarily limited space of a review, to dwell on the various interesting and original features of Stokes's contributions to surgery. Suffice it, therefore, to say that every one of them is full of information and inspiring example. We would fain dwell for a moment on the pages which reproduce (Chap. XXXV.) the almost inspired *Address in Surgery* delivered at the "Jubilee" Meeting of the British Medical Association, held at Worcester in 1882, which dealt the last deadly blow to the obstructive tactics of the ignoble army of anti-antisepticians.

We have done. We will close by expressing our devoted admiration of the instruction and example afforded by the life and writings of our illustrious fellow-countryman, whose untimely loss we have so recently had to deplore. At the same time, we cannot help congratulating ourselves on the fact that his works have fallen into the hands of so able and representative an editor as Mr. William Taylor; and we will just express the final wish and hope that all our readers will profit by the careful perusal of the resultant volume now before us.

Practical Physiology. By A. P. BEDDARD, M.A., M.D.;
J. S. EDKINS, M.A., M.B.; LEONARD HILL, M.B., F.R.S.;
J. J. R. MACLEOD, M.B.; and M. S. PEMBREY, M.A., M.D.
London: Edward Arnold. 1902. 8vo. Pp. 195.

CO-INCIDENT with the greater importance that is nowadays attached to Practical Physiology as a subject of the medical curriculum, a number of text-books of late years have appeared. The fact, however, that teachers from four of the important London Medical Schools have combined to issue an additional one, may be taken as evidence that none of those already in existence meets with universal approval. It remains to be seen whether the one before us will, to a greater extent, fulfil the

conditions necessary to insure a more general acceptance. Compared with others, the scope of the work may be said to be intermediate between the smaller "*Instructions for Class Work in Practical Physiology*" by Schäfer, and the more comprehensive "*Practical Physiology*" of Professor Stirling.

The work is divided into elementary and advanced courses, and each is appropriately sub-divided into sections dealing with "Experimental" and "Chemical Physiology." The elementary courses obviously purport to cover the ground which, in the authors' opinions, should be traversed by every medical student. The advanced courses treat of such additional work as would reasonably be required of candidates proceeding to higher examinations, whether medical or otherwise.

Dealing with these divisions in order, the elementary courses comprise sixty-nine chapters (278 pp.), forty-five of which are allotted to "Experimental" and nineteen to "Chemical Physiology." The proportion of the former seems undue, but seventeen of the chapters are devoted to demonstrations of vascular, respiratory, and alimentary phenomena, the majority of which are usually shown as illustrations of class lectures. It is therefore true, as the authors claim, that less prominence is given to muscle-nerve physiology, and more to physiology having a clinical bearing, than is usually the case in such textbooks. The change is certainly in the right direction for the medical student; and, no doubt, further experience in the employment of the book as a manual of class instruction will, in the future, lead to a more extensive substitution of the one kind of work for the other. The principle, however, which underlies the writing of the individual chapters may not commend itself to all.

In the experimental part of the book there appears to be overmuch description of what *should* be obtained, while the instructions for the performance of the actual experiments are somewhat meagre and not sufficiently didactic. Moreover, the demarcation between the descriptive parts and those giving such instructions is not obvious at a glance. The use of two separate types would appear to us to have been an improvement, if the principle be admitted that it is desirable to have

any but the minimum of "theoretical description" in a practical work.

The chapters on elementary chemical physiology are, on the whole, well written, and the subjects treated of judiciously chosen. In some of these, however, notably that on blood coagulation, the same tendency to description as contrasted with experiment creeps in. For example, a whole series of conditions which influence the process are enumerated, many of which could not be applied by the student, and are obviously not intended to be so, while the study of the phenomenon itself stops short with experiments on blood plasma, without going on to the further stage of those with solutions of fibrinogen precipitated by the student from the plasma, as could readily be done within the time ordinarily allotted to a class meeting. Again, it seems useless to introduce a paragraph on nitric oxide hæmaglobin when no mention of the method of preparing it is given; nor is it to be expected that junior students should prepare it.

In the chapter on foods and the principles of dietetics there are five pages of descriptive matter, and only two paragraphs of instructions for experiments. In that on gastric juice, where the experiments are more numerous, Maly's theory of the formation of hydrochloric acid is fully given in ordinary type, but no allusion is made to the simpler explanation on the ionic hypothesis. Again, it is rather disappointing, and somewhat of a reproach to chemical physiology, that the tests for acetone in urine do not go the length of differentiating this substance from alcohol, as can readily be done by the employment of Reynolds' mercurial test, or even by the addition of ammonia solution, instead of that of caustic potash in the iodoform test. No mention is made either of the now generally adopted modification of the Kjeldahl method for the estimation of total N., by which the stages of combustion and distillation are carried out in the same flask. These are minor blemishes, but blemishes which one regrets in an otherwise useful section.

The advanced sections, particularly the experimental part, and advanced demonstrations, are much to be commended, and constitute the best chapters of the book. It is almost a pity they were not issued as a separate volume. Much of

this ground is not covered, certainly not covered so well, by any other practical English text-book, while the same cannot be said of the elementary sections. Indeed, if the authors had confined themselves to the issue of an advanced syllabus alone, based on the lines here adopted, little but unqualified praise could have been given to their efforts, and physiologists, one and all, would have been indebted to them.

The Operations of Surgery. By W. H. A. JACOBSON, M.Ch. Oxon., F.R.C.S., Surgeon Guy's Hospital; and F. J. STEWARD, M.S. London, F.R.C.S. Assistant Surgeon to Guy's Hospital, and to the Hospital for Sick Children, Great Ormond-street, Surgeon-in-Charge of the Throat Department, Guy's Hospital. Fourth Edition. With 550 Illustrations. In two volumes. Vol. I., pp. 727. Vol. II., pp. 776. London: J. & A. Churchill. 1902.

THIS work, which is intended especially for the use of those recently appointed on a hospital staff and for those preparing for the higher examinations, has now reached its fourth edition, and has been issued in two volumes, which in itself is a very decided improvement upon the former editions, if only as a matter of convenience. In the preparation of this edition Mr. Jacobson had to avail himself of the assistance of Mr. F. J. Stewart, who is responsible for the revision of the last 20 pages of Volume I. and of the whole of Volume II., Mr. Jacobson's share coming to an end in Vol. I. with the close of the section on "Removal of the Breast."

Volume I. concludes with the section on the surgery of the heart and pericardium, and comprises no less than 706 pages of text. It bears ample evidence of thorough revision in each chapter, and has many new and instructive illustrations added. The same plan of division into regions has been adopted in this as in the previous editions, and in the first section, devoted to the surgery of the upper extremity, the most noticeable additions and improvements are to be found in the chapters devoted to the surgery of tendons, excision of the wrist, and excision of the shoulder.

In the section devoted to the surgery of the head and neck full justice is done to the advancements made, since the last

edition was published, in connection with the surgery of the mastoid and the diagnosis and removal of cerebral tumours.

Horsley's operation for the removal of the Gasserian ganglion is still described as he originally described it in 1891, but we understand that he no longer divides the dura mater so as to expose the temporo-sphenoidal after the full length of bone was removed as he used to do in his early cases.

The section on the removal of the breast has been very fully brought up to date, and new figures, illustrative of Mr. Watson-Cheyne's methods of making the skin incisions for the complete removal of the gland where the tumour is situated in different regions of the breast, have been added.

Volume II. comprises 754 pages of text, and is devoted mainly to the surgery of the abdomen, pelvis and lower extremity. It does not show evidences of the same careful revision that Vol. I. does; for example, Mr. Ball (now Sir Charles Ball) has modified his method of radical cure for inguinal hernia, but we still find his original operation described. The modification was published, we think, in 1898, his paper being read, we believe, at the annual meeting of the British Medical Association in 1898. There is no description given of performing the radical cure of femoral hernia, by closing the upper opening of the crural canal. At least one excellent method, which we have personally proved most satisfactory, was devised and described in the *British Medical Journal* some six or seven years ago by Mr. T. E. Gordon, of this city.

There is no description or illustration of Maydl's method of performing inguinal colostomy or its modifications—a procedure which, when it can be carried out, we have found most satisfactory. Throughout this section we find the word "colotomy" used, whereas according to the correct nomenclature the word should be "colostomy." There is not a single illustration of any method of performing the anterior operation (inguinal colostomy).

The section devoted to the surgery of the kidney is good, but here again we find the terminology wrong, the word "nephrorrhaphy" being used instead of "nephropexy." Nephrorrhaphy means simply suturing the kidney, such as would be done after a free incision to explore for stone,

whereas, when we want the correct term for the fixation of the kidney we get it in nephropexy from $\pi\acute{\eta}\gamma\gamma\upsilon\mu\iota$ =I make fast.

The chapter devoted to operations on the ureter is new, but not satisfactory, as there are no descriptions or illustrations of the operations of implanting the ureters into the bladder, vagina, or bowel—procedures which may occasionally have to be undertaken.

The section on appendicitis is excellent, as is also that on the various methods of intestinal anastomosis.

The section devoted to the surgery of the stomach could have been easily improved, though there are evidences of revision. Nothing is said about Tupolske's method of doing the operation of "pylorectomy" in two stages, where the patient is much debilitated, a procedure spoken of very favourably by Czerny and others, in which a posterior gastro-enterostomy is done first, and then, three weeks later, the pylorus is removed.

There is no description or illustration of the method described by Roux of doing posterior gastro-enterostomy, with the object of obviating the occurrence of the "vicious circle."

Taken in all, the work well maintains the excellence which previous editions led us to expect. The few blemishes to which we have drawn attention detract but little from its value.

The authors would do well to illustrate more fully, and especially in connection with the abdominal sections, in future editions. This would much enhance the value of the work, which, so far as the text is concerned, is far and away superior to anything published in this country.

We heartily congratulate the authors, and strongly recommend the work to every surgeon.

The Pharmacological Action and Therapeutic Uses of the Nitrites and Allied Compounds. By the late D. J. LEECH, M.D. Edited by R. B. WILD, M.D. Manchester: Sherratt & Hughes. 1902. 8vo. Pp. 187 + viii.

THE late Dr. D. J. Leech was a man of the noblest character, and of high scientific attainments, and his premature death was a serious loss, especially to the young cult of pharmacology. He was a careful observer, a good physiologist, and an en-

lightened physician, and in his time accomplished some excellent work.

In the volume before us we have his collected writings upon a branch of therapeutics to the elucidation of which he had devoted much time. As an appropriate prelude the book leads off with an introductory lecture, delivered in 1884, on the "Relation of Pharmacology to Therapeutics," which affords a valuable indication of the lines upon which Leech taught and conducted his researches. The three succeeding papers deal with ethyl nitrite under various aspects, and the fifth paper discusses the duration of action of medicines, with especial reference to the nitrites and nitroglycerin. The remainder, and the most valuable part, of the text embodies, in a revised form, the Croonian Lectures for 1893—"On the Pharmacological Action and Therapeutic Uses of the Nitrites and Allied Compounds." A copious bibliography is added, and the work is completed by 28 plates of tracings in illustration of the physiological experiments.

Altogether, then, we have a compact and admirable account of an important group of remedies, and there is no physician or physiologist who will not be the better and the wiser for having studied it.

The Elements of Bacteriological Technique: A Laboratory Guide for the Medical, Dental, and Technical Student.
By J. W. H. EYRE, M.D., M.S., F.R.S., Edin.; Bacteriologist to Guy's Hospital, London, &c. With 170 Illustrations. Philadelphia and London: W. B. Saunders & Co. 1902. 8vo. Pp. 371.

THIS is an eminently practical book. It gives explicit numbered directions for the performance of every bacteriological procedure. With this manual in hand the student can hardly go wrong—*provided that he follows the directions*. But that is the difficulty. The directions cannot be carried out unless in a completely fitted laboratory. There is no sense of proportion; the essential points are not clearly marked off from those of minor importance. Flasks and solutions are repeatedly directed to be used in the sterile state when it is quite unnecessary to have them so, as they

and their contents must necessarily be sterilised at a later stage of the procedure. For the examination of a sample of milk—to give an example of what is meant—Dr. Eyre requires the following apparatus:—

Case of sterile capsules (25 cc. capacity).

Case of sterile graduated pipettes, 10 cc. (in tenths of a cubic centimetre).

Case of sterile graduated pipettes, 1 cc. (in tenths of a cubic centimetre).

Flask containing 250 cc. sterile bouillon.

Tall cylinder containing 2 per cent. lysol solution.

Plate levelling stand.

Case of sterile plates.

Tubes of nutrient gelatine-agar (+ 10 reaction).

Tubes of wort-gelatine.

Tubes of nutrient agar (+ 10 reaction).

Water bath, regulated at 42°.

Bunsen burner.

Grease pencil.

He requires the inoculation and pouring out of eight gelatine agar tubes, three wort gelatine tubes, and three agar tubes. For tubercle he requires five guinea pigs, three of which have been previously tested with tuberculin, per sample. Each guinea pig is to be accurately weighed *each day* after inoculation till its death or slaughter. The analyses conducted according to Dr. Eyre are conducted according to "counsels of perfection," and unless the bacteriologist has at his disposal the resources of an unusually well-equipped laboratory and the most ample provision of nutrient materials, he will hardly succeed in following the advice given in this book.

The illustrations consist for the most part of sketches of apparatus ready set up. They are original, and of the highest practical value. We find also illustrations of the several types of colonies that occur on gelatine plates, and of the types of stab-cultures, together with Chester's valuable nomenclature. Explicit directions are also given for the determination of metabolic activity and enzyme production, thermal death point, and resistance to disinfectants.

Occasionally there are slight errors—*e.g.*, on page 139,

where within the first 4 lines we find "cc." three times used instead of "cm." Serious errors, whether of commission or omission, are singularly few.

The only defect in an otherwise admirable piece of work is the author's singular fondness for complexity—begotten, no doubt, of thoroughness, but tending to dismay the operator of slight experience and moderate resources. Perhaps Dr. Eyre's real object—unspoken, of course—is to deter such unfavourably circumstanced workers from undertaking bacteriological investigations.

Taken all round, the author has succeeded in producing a standard, up-to-date, and essentially practical guide, which we can heartily recommend to all working bacteriologists—a book that deserves a place beside the works of Heim and Novy on the reference-shelf in every bacteriological laboratory.

Manual of Bacteriology. By ROBERT MUIR, M.A., M.D., &c., Professor of Pathology, University of Glasgow; and JAMES RITCHIE, M.A., M.D., &c., Reader in Pathology, University of Oxford. Third Edition. With 150 Illustrations. Edinburgh and London: Young J. Pentland. 1902. Svo. Pp. xviii. + 548.

WE have already dealt so fully with this deservedly popular text-book, in its earlier editions, that we feel it unnecessary to do more than point out that the third edition is brought fully up to date. We find descriptions of Van Ermengem's *Bacillus botulinus* (the cause of sausage-poisoning), of *B. aerogenes capsulatus*, and of the ætiology of yellow fever, with full reference not only to Sanarelli's now much-doubted results, but also to the mosquito theory as elaborated by the U. S. Army Commission. There is also a very good account of the life-history of the malarial parasite, illustrated by a fairly demonstrative series of micro-photograms. Leishman's modification of Romanowsky's method of staining the parasite is given, but no mention is made of Jenner's very excellent compound of eosin with methylene blue. The notice of vaccinia and variola is rather disappointing, the exploded bacilli of Klein, Kent, and Copeman being dealt with at some length, whilst the excellent work of Guarnieri,

v. Wasielewsky, and Hückel on the effect of vaccination on the cornea of rabbits is passed over in silence. Some mention might, we venture to think, have been accorded to the histological work of G. Mann. The complex subject of immunity is dealt with in a most instructive and well-written chapter, in which we find a statement of Ehrlich's now well-known side-chain theory of the origin and mode of action of anti-toxins, anti-hæmolysins, &c. A diagram or two would help the reader to understand the relation of the immune body to the cell on the one hand, and the complement on the other, and here and there one sighs for more clearness in the language used. Thus, for example, on p. 460 we read, "Some of the fresh serum *turns out* some of the toxoid," &c. The precise significance of the phrase italicised is far from clear. The book preserves its well-known appearance, and, indeed, possesses every attraction that neat binding, clear type, and good paper can give it.

The Blood: How to Examine and Diagnose its Diseases.

By ALFRED C. COLES, M.D. Second Edition. With Six Coloured Plates. London: J. & A. Churchill. 1902. Svo. Pp. 286.

WE are not surprised that Dr. Coles' work should have run so speedily into a second edition. It provides a thoroughly useful compendium of the methods that have proved of real clinical value in the examination of the blood. The author exercises a wise discretion in the selection of his procedures, and avoids the error of overwhelming the reader with a multitude of methods, many of which, when all is said and done, are of doubtful clinical utility. He confines himself to the examination of the cellular elements, the estimation of the hæmoglobin, and the examination of the blood in the fresh state and in stained films. The determination of the alkalinity, of the coagulability and of the specific gravity are omitted, unwisely, we venture to think, in the case of the last-mentioned property, which may often be utilised for the estimation of hæmoglobin in the absence of the proper instrument for that purpose.

For counting the corpuscles Dr. Coles, in common with

the majority of workers in this country, prefers the Thoma-Zeiss instrument, and for leucocyte counting he has obtained good results with Zappert's modified counting-chamber.

For hæmoglobin determination the well-known instrument of v. Fleischl is described in detail as being evidently preferable to those invented by Gowers and Oliver.

The greatest practical interest, however, attaches to the author's mode of making blood films for staining. He prefers the slide method. There can be no doubt that when the slides used are really high-class articles, with evenly ground edges, the results that can be obtained with this method are nearly as good as can be had by using cover glasses, whilst the slide preparations have the very great merit of ready portability from bed-side to laboratory.

We quite agree with Dr. Coles as to the vital importance of making the films so thin that the part at least is dry within five seconds. All practical hæmatologists know that the only dry films worth staining are those that have become dry within a very few seconds, and that the ability to make such must be acquired before success can be achieved in differentially counting leucocytes or hunting for the malarial parasite.

There is nothing new in the methods of fixation given, but something that is new and useful has been omitted. We refer to the wet-film method, which when combined with formalin-vapour fixation and staining by Jenner's compound of methylene-blue and eosin probably yields the best results of all.

We have left ourselves but little space in which to deal with the author's description of the general morphology of the blood, and its alterations in the anæmias, leukæmia, and malaria, as well as under various other diseased conditions. There is little that is novel but much that is sound and of practical value. Certain tabular statements of the results of blood counts made in cases of pernicious anæmia and leukæmia by Dr. Coles himself, show that he has put a good deal of work into his studies of the blood. The task of observing and classifying 1,500 leucocytes is, if easy, excessively tedious and takes much time.

A word as to the coloured plates, of which there are six, done by the author, and reproduced by West & Newman.

They are faithful representations of the objects they are intended to depict. Most of them are taken from films stained with hæmotoxylin and eosin—the combination which, when properly manipulated, still appears to us to yield the most distinctive and elegant results, and which is quite indispensable in the study of nuclear structure. One plate represents the leucocytes as stained with Ehrlich's "triacid," and does it very well indeed.

One cannot help wondering why the author should say, as he does on page 36, that he cannot recommend the use of any of the triple stains for clinical purposes. With what other combination can he—for example—diagnositicate a narrow cell from a large mononuclear of the ordinary kind?

Taken all round the work has a definite value, especially for readers who, being unacquainted with German, cannot derive their information direct from the fountain-head. But it requires to be read in conjunction with an original work like that of Ehrlich and Lazarus.

Suggested Standards of Purity for Food and Drugs. By C. G. MOOR, M.A., F.I.C., F.C.S. ; Joint Author of "Applied Bacteriology," "Aids to the Analysis of Food and Drugs," "Water Analysis," "Milk and Milk-Products," &c. ; late Senior Demonstrator Public Health Laboratories, King's College, London ; late Public Analyst to the City of Exeter ; Chief Chemist to the Ashanti Goldfields Corporation. London : Baillière, Tindall & Cox. 1902. Crown 8vo. Pp. 260.

THIS carefully prepared volume undoubtedly meets a distinct want in the series of reference text-books. It is evidently the work of a master of the subject which he undertakes to teach. The information which it places within the easy reach of all is most important in the present state of medical, and pharmaceutical, and legal, practice. The application of the powers supplied by the "Food and Drugs Act" depends on the availability of such knowledge as that which is here so well selected and so lucidly defined. Accordingly, the work should be in the hands of such responsible persons as town clerks, as well as their medical advisers, as it gives the information requisite

for decision of questions regarding the amenability of the vendors of foods and drugs. The clearness and accuracy of the information on these very useful and important subjects, which is here collected by the author, are worthy of the highest praise. We know of no other source from which such information can be derived without the expenditure of enormous trouble. The British Pharmacopœia, while giving careful directions as to quantities, weights, &c., in the compounded official preparations, is extremely deficient in its supply of information regarding the quality and activity of the constituents of the raw drugs. And although some of the "Commentaries" and "Companions to" the British Pharmacopœia supply a great deal of this missing knowledge, we can confidently recommend the present convenient and reliable little manual as preferable for fulness, accuracy, and lucidity to any one of them. We cordially thank the author for the information which he has thus placed so conveniently within our reach. The volume is issued in the usual superior style and taste which characterise the medical publications of Messrs. Baillière, Tindall & Cox. We feel sure that it will meet with the success which it thoroughly deserves, and it is unnecessary for the best friends of author and publishers to wish it more.

Atlas and Epitome of Otology. By GUSTAV BRÜHL, M.D., Berlin; and PROFESSOR A. POLITZER, Vienna. Authorised Translation from the German. Edited by S. MACCUEN SMITH, M.D. With 244 coloured figures on 39 lithographic plates, and 99 text illustrations. 8vo Pp. 292. Philadelphia and London: W. B. Saunders & Co. 1902.

THIS most admirable book fills a want long felt of an illustrated clinical handbook of ear diseases so small that a busy man may read it, so moderate in price that all may buy it, and so accurate in its information that all may trust it.

It represents the work of a distinguished teacher, done in a thorough and comprehensive manner.

The translator aims to give an accurate but liberal expression of the author's ideas, rather than a literal exposition of the German text. The book is both didactic and clinical in

its teaching, the latter aspect being especially adapted to the wants of the student. Particular attention is paid to the exposition of the minute anatomy of the ear, a working knowledge of which is so essential to an intelligent conception of the science of otology. The illustrations are very beautifully executed in colours, and illuminate the text in a singularly lucid manner, portraying pathological changes with such striking exactness that the student should receive a deeper and more lasting impression than the most elaborate description could produce.

The association of Professor Politzer in the preparation of the Atlas, and the use of so many valuable specimens from his notably rich collection, very much enhances the value of the work before us.

We can heartily commend this translation to all English-speaking students and practitioners who want a complete, readable, and accurate Atlas of the anatomy, physiology, and pathology of the organ of hearing.

A Manual of Hygiene. By W. H. HAMER, M.A., M.D., &c.;
Lecturer on Public Health, St. Bartholomew's Hospital;
Assistant Medical Officer of Health, Administrative County
of London. London: J. & A. Churchill. 1902. Svo.
Pp. 622.

THIS is a well written, up-to-date Manual of Hygiene, well adapted for the use of candidates for the Diploma of Public Health. It contains no fewer than 93 illustrations, and is printed in good, clear type on excellent paper. Dealing exhaustively with none of the subjects of which it treats, it leaves none of any importance untouched. A short chapter sketches the rise and progress of Preventive Medicine. Air is treated of at great length, the chapter on it occupying 83 pages. We are glad that no space is taken up in a minute chemical account of the constituents of the atmosphere—the ordinary medical graduate is presumed to have obtained this information in his undergraduate course. On the other hand, the practical work in examination of air, normal and abnormal, is very fully described, in some instances in even greater detail than is to be found in many text-books on practical

chemistry. A good account of eudiometry is given. Three processes for the determination of carbonic acid in the air are given. One of these (Angus Smith's method) is so simple that anyone almost could employ it. It consists of a set of bottles and a solution of lime (baryta would be better). If on shaking the solution in a 6 oz. bottle of air turbidity is produced, the air contains 11 parts of carbonic acid per 10,000 parts of air, the proportion in normal air being only 0.4 to 0.5 parts. The various sources of air pollution are fully pointed out. Although the electric light is believed to cause the production of a small amount of nitric acid in rooms, Dr. Hamer considers that it is greatly superior, from a health point of view, to gas illumination.

Authorities quoted by the author point out the great mortality from phthisis which is produced by vitiated air. Dr. Niven, Medical Officer of Health for Manchester, investigated the cause of its excessive prevalence in 77 common lodging-houses in that city, and attributed it chiefly to the influence of impure air. The phthisis death-rate was over 20 per 1,000, whilst the mortality of the whole of Manchester at the ages 25 to 45 was 3.95 per 1,000. This latter is, however, very high, and exceeds that of Dublin by nearly a third, though Dublin has an unenviable notoriety for its high phthisis death-rate. A very fair description of the principal methods of ventilation concludes the chapter on air.

The chapter on water comprises 46 pages. It is not the best part of the book, but still it is well and clearly written. It would have been well if some diagrams showing the common microscopic objects found in water, especially impure, had been given.

There is an excellent chapter on soil, and in which a little geological information is given, such as candidates for Public Health Diplomas are sometimes questioned on, especially at the Royal University. Sir C. A. Cameron's researches on the incidence of enteric fever in the gravel and clay districts in Dublin are referred to. The most recent information as to the viability of the *Bacillus typhosus* in soils is given. It has been shown that as regards phthisis there is less of it amongst populations living on pervious soils than amongst those residing on impervious ones. This really

means that the wetter a soil the more consumptive are the people on it.

In the chapter on food much information is contained. The connection between food and drink and certain diseases is treated of. The analysis of milk is described, but we think that 2 cubic centimetres is rather a small quantity to take for the purpose; 5 cc. is a better quantity. This chapter is well illustrated.

"The collection, removal, and disposal of refuse" constitutes Chapter VI. It is concise, and describes the best forms of w.c.s., drains, sewers, traps, &c., and also treats of "sewage" disposal.

The remaining chapters deal with dwellings, schools, hospitals, infectious diseases, disinfection, vital statistics, and sanitary administration and sanitary law.

We can strongly recommend this excellent work to the attention of all who are interested in the administration of public hygiene, or, indeed, we might say of private hygiene, too.

A Manual of Medical Treatment or Clinical Therapeutics.

By I. BURNEY YEO, M.D., F.R.C.P.; Emeritus Professor of Medicine in King's College, London; Consulting Physician to King's College Hospital; Hon. Fellow of King's College; formerly Professor of the Principles and Practice of Medicine and of Clinical Therapeutics in King's College, and Examiner in Medicine at the Royal College of Physicians; Author of "Food in Health and Disease," &c., &c. New and Revised Edition. London, Paris, New York, and Melbourne: Cassell & Company, Ltd. MCMII.

THE merits of Dr. Burney Yeo's "Manual of Medical Treatment" have already been so thoroughly established, and so fully and deservedly recognised by the profession throughout the world, as to render detailed criticism of this new and revised edition practically unnecessary. The author tells us that "the vast amount of material—not all, certainly, of equal value—which is being so rapidly produced in connection with the subject of therapeutics, has necessitated a most careful examination and sifting in order to retain what is likely to be of lasting service, and to discard that which, at best, can only

be destined to a temporary popularity." And, in the present edition, "in accordance with the suggestion of friendly critics," some additional subjects are dealt with, including the treatment of hay fever, paralysis agitans, cerebral tumours, erysipelas, cerebro-spinal fever, rickets, scurvy, and purpura.

If in the endeavour to fulfil the first duty of a reviewer—which we have been told is to find fault with something—we felt disposed to express dissent from any opinion expressed by the author, it would, perhaps, be with his implied approbation of the opinion that the sporadic form of "epidemic cerebro-spinal meningitis" "is closely related to, if not identical with, the disease described as *posterior basic meningitis*." Now, in Dublin we have had a good deal of experience of cerebro-spinal meningitis, and we flatter ourselves that we know most things about this interesting disease. As a historic fact it was first specially recognised and described in this city by the late illustrious physician, Dr. Mayne, who was at the time of its recognition the Visiting Medical Officer of the North Dublin Union Hospital. Both diseases are met with more especially in childhood and youth. But one of the most distinguishing characteristics of epidemic cerebro-spinal meningitis is the way in which the morbid process travels upwards, from the upper end of the spinal cord, over the *convexities of the cerebral hemispheres*, and *not* forwards on the basilar aspect of the brain. This, however, is but one of a few small spots on the illuminating surface of a peculiarly accurate and instructive work.

The Guide to South Africa. Edited annually by A. SAMLER BROWN and G. GORDON BROWN. 1902-1903 Edition. Tenth Edition. London: Sampson Low, Marston & Co. Cape Town, Port Elizabeth and Johannesburg: J. C. Juta & Co. 1902. 8vo. Pp. lx + 474.

LITTLE change from the ninth edition is observable in the present issue of this invaluable work. At page 290, however, we find some interesting facts about the closing stages of the war in South Africa. "By means of block-houses and barbed-wire fences, the Boers' forces were so harried and reduced, that on April 9th, 1902, the Commandants, having asked

and obtained permission to do so, met at Klerksdorp, within the British lines, with a view to formulating acceptable proposals of peace. After several discussions an agreement was arrived at on May 31st, 1902."

"Some 20,000 men were still left under their command, but, outside of these, nearly the whole nation was being fed and boarded at the expense of Great Britain. In addition to the thousands of prisoners-of-war detained at St. Helena, Bermuda, Ceylon, and elsewhere, the Refugees in the Concentration Camps formed a total, in January, 1902, of 121,965 (Transvaal, 60,151; Orange River Colony, 42,404; Natal, 19,175; Cape Colony, 235)."

"At the conclusion of the war there were 202,000 British troops under arms, of which 83,500 were Volunteers, Colonials, Militia, and Yeomanry. It is proposed to retain a garrison of from 50,000 to 70,000 men in the country."

The foregoing extracts will give the reader some idea of the interesting character of the work, which has now completed its tenth year of publication.

The Edinburgh Medical Journal. Edited by G. A. GIBSON, M.D., F.R.C.P. Ed.; and ALEXIS THOMSON, M.D., F.R.C.S. Ed. New Series. Vol. XII. Edinburgh and London: Young J. Pentland. 1902. 8vo. Pp. xxxvi + 592.

THIS classical periodical pursues the even tenour of its way. Thirty-six pages are devoted to the topic of Medical Education in the United Kingdom, the article forming originally part of the number of the Journal for October, or the "Students' Number."

Each monthly number opens with a series of paragraphs dealing with current topics, after the fashion set by Mr. Malcolm Morris when he became Editor of *The Practitioner*.

Dr. G. A. Gibson, one of the editors, leads off the original communications with "The Morison Lectures" on the nervous affections of the heart, which were delivered in the Royal College of Physicians of Edinburgh on January 20, 22, and 24, 1902. Founded in 1864 by Sir Alexander Morison, of Bankhead, a former President of the College, the Lecturership was originally intended to meet a want in the medical curri-

culum by supplying a succession of lectures upon insanity. Some twenty years ago the College authorities widened the scope of the Morison Lectures so as to embrace other branches of medicine besides insanity, the only stipulation being that their subject should be in some way connected with the nervous system.

Dr. Gibson's lectures in the present series are occupied solely by sensory disorders. Motor disturbances are left for consideration during a future series. The topics discussed in the three lectures published in the volume under review are treated under the headings—"clinical," "pathological," and "therapeutical." Heart-pain is the text upon which Dr. Gibson enlarges with all his wonted literary skill and erudition. He is optimistic in regard to the therapeutics of the sensory affections of the heart and circulation, which "are in truth and in deed wonderfully amenable to careful management."

There are many other important articles in this volume, notably one on the *Ætiology of Tuberculosis* by Dr. Arthur Latham, the winner of the King's prize for an essay on the erection of a sanatorium for the treatment of tuberculosis in England.

The other departments of the *Journal* are well represented in this—the twelfth—volume of the *New Series*.

Transactions of the American Pediatric Society. Edited by
WALTER CARR, M.D. Vol. XIII. 1901.

THESE interesting *Transactions* are reprinted from the "*Archives of Pediatrics*," and consist of papers read at the Thirteenth Session of the Society held at Niagara the previous year.

There are many papers of interest, although, as common in all Societies, some years are more fruitful in good papers than others, and the selection before us has been outstripped by previous numbers.

The papers of most interest are:—An Address on Summer Diarrhœa, by the President, and an Analysis of 555 Cases, by Dr. Kerley; A Review of Congenital Heart Disease, by Dr. Morse; Cyclical Albuminuria, by Dr. Churchill; Idiocy and Cretinism, by Dr. Lichtenstein;

and Pyloric Stenosis, by Dr. Saunders. There are many other good papers, and much useful work is collected in the volume.

It is an excellent publication.

Constipation. By G. SHERMAN BIGG, F.R.C.S.E. : Fellow of the Royal Institute of Public Health ; Member of the Royal College of Surgeons, England ; Licentiate of the Society of Apothecaries, London ; Late Surgeon-Captain Army Medical Staff ; Staff Surgeon to Major-General Sir Herbert Macpherson, V.C., K.C.B. : Surgeon in Medical Charge of Officers, Shorncliffe Camp ; Surgeon-in-Charge, Native Followers' Hospital, Allahabad ; Surgeon-in-Charge, Women's Hospital, Allahabad. London : Baillière, Tindall & Cox. 1902. Cr. 8vo. Pp. 67.

THIS well-written and beautifully-printed volume forms a thoroughly scientific (and philosophical) study of the causes, phenomena, and consequences of an unhealthy condition which deserves far more consideration than it has generally received. As the author tells us, "Every day the public and the profession are learning more and more of the germ origin of disease ; but the germ without a suitable soil for maturation would die a premature death. In a great measure due to constipation making the soil fertile for the reproduction of germs, the individual is rendered susceptible to disease. Germs are the attacking force, while the constitution is the fortification, against which all efforts are futile and powerless unless a weak spot in the defence is found. No matter whether the germ be one of cancer, consumption, or any infectious disease, so long as the constitution is sound, no danger need be apprehended." It is a considerable time since we have met so much pathological truth contained in so small a space as in these sentences. And throughout all pages of the volume the consideration of the causes, necessary results, and complicated sequelæ of a too-often neglected condition is carried out in the same philosophic tone.

We regard this small book as a most important and timely contribution to the investigation of a very serious clinical problem, and cordially recommend its perusal to all our

readers. We cannot help adding, incidentally, that the type and paper are simply exquisite; and do the highest credit to the taste and enterprise of the eminent publishing firm of Messrs. Baillière, Tindall & Cox.

The Story of Alchemy and the Beginnings of Chemistry.

By M. M. PATTISON MUIR, M.A.; Fellow, and Prælector in Chemistry, of Gonville and Caius College, Cambridge. With 17 Illustrations. London: George Newnes, Ltd. 1902. Pp. 185.

THIS extremely interesting and well-written little volume—the work of a past-master of the special department of science, which has formed the pursuit of his life—cannot fail to attract the attention of all of our readers who delight to study the growth of human knowledge and the history of human opinion. The doctrines of such pioneers as the (semi-) mythological Hermes Trismegistus of Geber, of Basil Valentine, of Paracelsus, and of Van Helmont, prepared the way for making straight the pathways of modern chemistry; and although their methods of operation and modes of thinking are far too tortuous for modern journalistic criticism, we cordially recommend Mr. Pattison Muir's booklet to all readers who are interested in the early growth and development of a most interesting study.

Diseases of the Heart: A Clinical Text-Book for the use of Students and Practitioners of Medicine. By E. H. COLBECK, B.A., M.D. Cantab.; Physician to Out-Patients at the City of London Hospital for Diseases of the Chest, &c. With 43 Illustrations. London: Methuen & Co. 1901. Pp. 341.

A WORK on Medicine may be written from either of two stand-points. A man may, out of the fulness of his experience, write a work based largely on his clinical observations and on the views which have gradually matured through a series of years; or else he may write a work, logical, clear, and well put together, which is founded in considerable degree on the instruction which he has acquired from other observers

and from the literature of the subject. The work before us belongs, in our opinion, mainly to the second of these classes. It is well arranged, and the explanations and descriptions are written in well-chosen words; but it seems to us to lack somewhat that air of individuality which is necessary before a book can become, as it were, a trusted adviser to assist us when we find ourselves in difficulties.

The sections on the symptoms and physical signs of the various heart lesions and the explanation of their pathological effects form the best part of the work. Any student or practitioner who studies these sections will acquire a very competent knowledge of cardiac disease. Controversial matter has been almost wholly excluded: thus in the chapter on mitral narrowing no reference is made to the theory that the crescendo murmur is due to a regurgitant current of blood, a view which has recently been urged by several observers.

The book is illustrated with well-chosen diagrams representing the anatomy of the heart, pulse tracings, &c.

Obstinate Hiccough. The Physiology, Pathology, and Treatment, based on a Collection of over One Hundred and Fifty Cases from British and Foreign Works. By L. F. B. KNUTHSEN, M.D. Edin. London: J. & A. Churchill. 1902. 8vo. Pp. ix + 169.

As we take up our pen to review this monograph we recall to memory two masterly and classical papers on Hiccough written by Irish physicians. Both papers were published in the DUBLIN JOURNAL OF MEDICAL SCIENCE, and we are glad to see that Dr. Knuthsen generously and frankly acknowledges his indebtedness to their authors.

At a meeting of the Medical Society of the King and Queen's College of Physicians in Ireland on Wednesday, November 16, 1881, Dr. Arthur Wynne Foot detailed the clinical history of a lad aged 15 years, whom he had been called to see on April 9 of the same year. The patient had been hiccoughing incessantly, except when asleep, for twenty-two weeks since November 5, 1880.

Of the second paper Dr. Knuthsen says (page 138)—“By

far the best comment on hiccough—the most scholarly and classical article—is to be found in the DUBLIN JOURNAL OF MEDICAL SCIENCE, June, 1893, by W. Langford Symes. In all my investigations this article easily stands out pre-eminent, and I am indebted to the author for following out his lines in my own reasonings, and for culling paragraphs from his excellent treatise." Dr. Knuthsen then quotes Dr. Langford Symes's case at considerable length.

The volume before us consists of a preliminary note on the etymology and meaning of the term "Hiccough," of a case observed by the author in a gentleman aged 43 years, and of six chapters or "Sections." The subject-matter of each of these sections is as follows:—Section I., British cases from current medical journals; Section II., Foreign cases from current foreign journals; Section III., Cases noted by writers of text-books on Medicine and so on; Section IV., Extracts of cases from various reviews; Section V., The anatomy, physiology and pathology of hiccough; and Section VI., Treatment, with a truly formidable list of the drugs and methods which have proved successful in the management of the affection.

It will be seen from this analysis of the contents of the book that it constitutes a very mine of information on the topic with which it deals. On this account it is valuable. But the clinical history of the fatal case reported by the author is even more interesting. The victim, in the autumn of 1896, had a sudden hæmoptysis followed by physical signs of right apical pulmonary tuberculosis. He was sent to Davos-Platz, where he spent the following two winters, returning to England in the Spring of 1899 "cured." He wintered at Falmouth in the season of 1899–1900. In March, 1900, he consulted Dr. Knuthsen for symptoms of dyspepsia and torpid liver. Late in the month of April he left for London, comparatively well. All through the following summer he felt low and depressed from worry connected with the winding up of his business in London. He was treated for a stomach attack in the autumn, and was passed as sound so far as his lungs were concerned. After his arrival for the second time at Falmouth he consulted Dr. Knuthsen, on October 26, 1900, for flatulence and costiveness. On November 4, while

feeling well, he began to hiccough. At 6 p.m. on December 1 he sank almost suddenly into a state of coma and died fifteen hours later, his hiccough continuing up to within eight hours of his death. There was no autopsy. Dr. Knuthsen calculates that during the month the attack lasted the patient must have hiccoughed no less than 480,000 times.

A Handbook of the Open-Air Treatment and Life in an Open-Air Sanatorium. Second Edition. By Drs. CHARLES REINHARDT and DAVID THOMSON. London: John Bale, Sons & Danielsson, Ltd. 8vo. Pp. xvi + 176.

THE open-air treatment of phthisis has, we believe, a great future before it, and whatever means may be adopted in these countries to cure and stamp out the disease the open-air treatment will of necessity form an important factor of it. This being so we gladly welcome Dr. Reinhardt's book, the object of which, as he tells us, is "to familiarise the reader with the details of life in a sanatorium, to give an approximate idea of the results that may be expected, and the cost that must be incurred." The idea still appears to persist in the minds of the public that consumption is an incurable disease, and that the only chance that a person has of prolonging his life when attacked by consumption is the adoption of a more or less permanent residence in some foreign country. In the pages of this book the error of these ideas is very clearly pointed out, and the description of the life that one must lead while undergoing the treatment, though truthful and accurate in detail, is very attractive, and devoid of many of those unpleasant features which are generally supposed to be essential to it. As regards the results that have been obtained in the British sanatoria, the statistics are most satisfactory. In incipient cases cures are obtained in from 80 to 90 per cent., in comparatively advanced cases 50 per cent. are cured, while 35 per cent. of all the cases taken together regain normal health. The book is profusely illustrated with pictures of the different British sanatoria, while a more or less detailed account of twenty-nine of these is given in the text. For those seeking information as to where they may go, or what they are to expect while undergoing the open-air treatment,

this handbook will afford a most excellent guide, and we can heartily advise any medical man to place it in the hands of any patient he may be recommending to undergo this treatment. We trust that the book will have a large circulation among the general public, for the information it contains will do much to dissipate those erroneous views on the subject of phthisis, the prevalence of which makes the progress of the anti-tuberculosis campaign so slow in these countries.

The Edinburgh Medical School Calendar and Guide to Students, 1902-3. Edinburgh: E. & S. Livingstone. 1902.

WE have been favoured with the twenty-third annual issue of this very useful little manual. It contains in a convenient form all the details of the Medical Department of the University of Edinburgh, of the Colleges of Surgeons and Physicians, and of the Triple Qualification of the last-named bodies, in conjunction with the Faculty of Physicians and Surgeons of Glasgow. Full particulars are given also of the various medical schools, hospitals, &c., including (p. 46 *et seq.*) a long list of extra-academical teachers whose lectures, &c., qualify for graduation in Edinburgh University. About one-half, or rather less, of the book is thus occupied, while the remainder, about 165 pp., is devoted to specimens of examination questions—preliminary, professional, D.P.H., &c.

The advantage to a medical student of being thus able to obtain in one volume, at the extremely moderate cost of two shillings, all the information which is scattered through the Calendar of the University, the Regulations of the Royal Colleges, and those of the various Hospitals, &c., is self-evident.

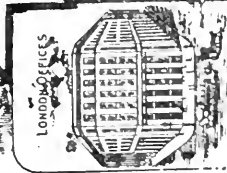
It is neatly got up—well printed, on good paper. We noticed an occasional slip on the part of the proof-reader, and also that the objectionable American method of spelling such words as gynaecology with “e” instead of “æ” has been adopted.

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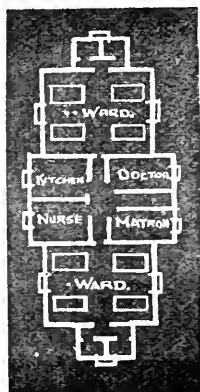
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PART III.

SPECIAL REPORTS.

REPORT ON DISEASES OF CHILDREN.

By W. LANGFORD SYMES, M.D., F.R.C.P.I.

I.—ENTERIC FEVER IN CHILDHOOD.

DR. BLACKADER, of Montreal, contributed recently an interesting paper to the American Pediatric Society on an analysis of 100 cases of enteric fever in children under 15 years of age.

4 cases occurred under 2 years.

13 „ „ between 2 and 5 years.

40 „ „ „ 5 „ 10 „

43 „ „ „ 10 „ 15 „

| CASES. | | | CASES. | | |
|------------------------------|----|------|--|----|----|
| Enlarged spleen— | | | Abdominal Tenderness - | 15 | |
| Palpable, | 70 | } 78 | Restlessness - | - | 15 |
| On percussion, | 8 | | Relapse, or Recrudescence in | - | 15 |
| ^a Headache - | - | 68 | Chilliness (not Rigor) - | - | 12 |
| ^a Constipation - | - | 59 | ^a Drowsiness - | - | 12 |
| Rose Spots - | - | 55 | Albuminuria - | - | 5 |
| ^a Anorexia - | - | 49 | Semi-stupor - | - | 4 |
| ^a Tympanites - | - | 48 | Blood in Stools - | - | 4 |
| ^a Loose Motions - | - | 36 | Paretic Bladder - | - | 3 |
| Abdominal Pain - | - | 33 | Erythematous Rash - | - | 2 |
| ^a Epistaxis - | - | 23 | Carphology & Delirium | 1 | |
| Systolic Heart murmurs | | | Convulsions (from injudicious feeding, | | |
| (apical and basal) - | - | 22 | aged 2 years 8 | | |
| ^a Vertigo - | - | 19 | months) - | - | 1 |
| Bronchial Signs - | - | 19 | Death - | - | 1 |
| Vomiting - | - | 18 | | | |
| Mild Nocturnal Delirium | 18 | | | | |

Those marked (^a) are described as “well recognised initial symptoms,” the remainder developing during the course of the disease.

The various symptoms fell into the following order of importance and frequency :—

Widal reaction positive in 96 per cent. of those cases in which it was sought—*i.e.*, 46 cases examined showing positive reaction in 43, and negative in 3. These cases were dated as follows :—

| | |
|------------------------|-------------------|
| From 1st to 8th day .. | 12 cases reacted. |
| „ 8th to 12th „ .. | 13 „ „ |
| „ 12th to 18th „ .. | 12 „ „ |
| „ 18th to 28th „ .. | 6 „ „ |

Treatment.—The treatment recommended, and here pursued, was :—

Cool baths (never “ cold ”), beginning at 95° and cooled down on each successive bath to 80° or 75°; never cooled by adding cold water; each bath 10 minutes. Chief effect to be desired is as a sedative to the nervous system, and never given as an antipyretic.

Systematic spongings at 70°.

Cold applications or ice to the head, and to the heart if excited.

Cold wet packs.

Stimulants freely as a food, especially whisky and brandy.

Cardiac stimulant, preferably strychnin.

Aperients if required, chiefly a glycerine and water enema, or small doses of calomel.

No antipyretics.

Hot applications to the feet.

Cool applications to the trunk.

Cold applications to the head.

An excellent plan was wrapping the patient in warm, moist gauze, and then fanning it.

Ice cream was sometimes of great value in feeding difficulties.

Cold baths should never be given to young children, as the shock is intense, and a much larger extent of surface is exposed proportionately to body weight than in adults. The cool baths reacted favourably on the nervous system, on the secretions, and nutrition, and they are held to be a positively useful measure.

II.—THE PANCREATIC DIGESTION OF CASEIN.

In the 12th Vol. of the Transactions of the American Pediatric Society, Dr. B. K. Rachford contributes an able paper, with experiments, on the pancreatic digestion of casein. The experiments were made with rabbits' pancreatic juice, filtered rabbit bile, and ordinary dairy milk boiled and neutralised. At the close of each experiment the undigested casein was coagulated, filtered, dried, and weighed, and the amount of peptones estimated. Various ingredients were tested:—Maltose prepared by one of Liebig's foods subjected to the action of diastase, limewater, sodium carbonate, hydrochloric acid, and bile.

1. *Influence of Maltose*.—It is shown that the pancreatic digestion of casein was in every instance slightly facilitated by the presence of a maltose solution, and that a milk sugar solution seemed to exercise the same beneficial influence. Pancreatic juice, therefore, in the presence of bile, is somewhat assisted in casein proteolysis by the presence of a maltose or milk sugar solution. In a previous paper (*American Journal of Physiology*, Vol. II., No. 5), Dr. Rachford demonstrated the fact that acid proteids undergoing digestion will slightly increase the diastatic action of rabbits' pancreatic juice. The inference, therefore, may be drawn that both the diastatic and proteolytic action of rabbits' pancreatic juice goes on more rapidly when the juice is acting in a mixture of starches and albumens than when acting on either alone.

Jacobi long since taught that in health milk digestion goes on more satisfactorily when mixed with a decoction of cereals, and many recent writers agree with Jacobi that with these diluents the rennet and hydrochloric acid of the stomach precipitate the casein in more flocculent clots, and enable the ferments to come into closer contact with the casein.

It must, however, be well diluted, and used cautiously. In any event we may infer that the effect of these malted cereal diluents on casein digestion is continued after the milk reaches the intestine and comes under the influence of the various enzymes of the pancreatic juice.

This action of maltose is not as powerful as that of either limewater or sodium carbonate.

2. *Influence of Limewater.*—Dr. Rachford's experiments also indicate that limewater slightly increases the proteolytic action of rabbits' pancreatic juice on casein. Limewater has long had an empirical reputation, perhaps due in part to the fact that the action of rennet is facilitated by the presence of salts of lime. But it has also some value in neutralising the acidity which usually develops in dairy milk before reaching the consumer, and facilitating the flaky deposit of casein in the stomach.

3. *Influence of Sodium Carbonate.*—It is shown that the presence of sodium carbonate greatly increases the proteolytic action of rabbits' pancreatic juice on casein. The good, however, that comes from sodium carbonate in infant feeding is probably due to the fact that it neutralises the fermentation acids which have been formed in the milk.

4. *Influence of Hydrochloric Acid.*—The few experiments in this table demonstrate that combined HCl slightly retards the proteolytic action of trypsin on casein. The retarding influence, however, was not very great for some considerable proteolysis was accomplished by the pancreatic juice when 1 minim of dilute HCl was added to 15 cc. of milk.

5. *Influence of Bile and Combined Hydrochloric Acid.*—A long series of experiments under this heading shows that bile not only neutralises the retarding influence of combined HCl on the pancreatic digestion of casein, but that by its presence it enables the pancreatic juice to do more work on acid casein than it could do on neutral casein, or on neutral casein mixed with bile. That is to say, bile assists the pancreatic juice in the digestion of casein; but it renders even greater assistance when the casein is partly saturated with HCl.

This table shows that the addition of a small percentage of HCl almost invariably increases the proteolytic action of pancreatic juice on casein when the juice is acting in the presence of bile.

The milk after being subjected in the stomach to the influence of rennet, HCl, and pepsin, is discharged partially digested through the pylorus into the duodenum; the casein being either wholly or partly saturated with HCl is brought

at once under the influence of a mixture of bile and pancreatic juice, and these conditions being favourable to the pancreatic digestion of casein, proteolysis will rapidly go on.

This fact has some bearing on the feeding of sick infants. HCl is one of the most valuable agents we have in the treatment of feeble digestion in infants. It is especially useful where malnutrition is pronounced and HCl in gastric juice deficient. Also in cases where curds are seen in the stools. Here a pepsin and HCl solution is of great benefit. At the same time it exercises a restraining influence on lactic acid and other organic fermentations.

III. MORTALITY AND DURATION OF PNEUMONIA IN CHILDREN.

Mortality.—D. J. P. Barber recently read a paper before the Minnesota Medical Society on "Pneumonia in Children." He points out that the writers of text-books derive their experience chiefly from hospital and consulting practice, and, therefore, fail to see the disease in its milder forms. Holt's statistics are stated to reveal a mortality of 65·5 per cent. of all cases seen in hospitals, and 49·5 per cent. of uncomplicated cases of broncho-pneumonia. Pepper is quoted as giving a mortality of 30 to 40 per cent. Dr. Barber holds that broncho-pneumonia in private has no such mortality, and with his conclusions most physicians will agree.^a He produces records of 165 cases of pneumonia in children under 5 years of age, seen in private, which are summarised as follows:—

Pneumonia in children, 165 cases:—

Broncho-pneumonia, 148 cases, 12 deaths = 8·1 per cent.

Lobar pneumonia 17 „ 1 death

Of 148 cases of broncho-pneumonia there were:—

Uncomplicated 131 cases, 5 deaths = 3·7 per cent.

Complicated 17 „ 7 „ = 41 „

^a In justice to Holt, however, we would point out that he is very clear on this point. He says:—"In private practice the mortality from broncho-pneumonia is from 10 to 30 per cent. One whose knowledge of broncho-pneumonia is derived from private practice, can, however, form but little idea of the frequency and severity of this disease in hospitals and asylums for infants and young children, particularly when it occurs with epidemics of measles, diphtheria, and pertussis."—*Cf.* "Diseases of Infancy and Childhood," by EMMETT HOLT, M.D., LL.D. 1903. P. 551.

The complications were as follows :—

| | | |
|----------------|----------|-----------|
| Whooping cough | 10 cases | 5 deaths. |
| Measles | 5 „ | 1 death |
| Enteric fever | 2 „ | 1 „ |

Duration.—The duration of broncho-pneumonia in children as seen in private is shorter than the text-books lead one to believe. The accompanying table shows the duration of 148 cases of broncho-pneumonia, 114 of which (77 per cent.) ended before the tenth day, and of these only three died.

TABLE I.—*Duration of Broncho-Pneumonia.*

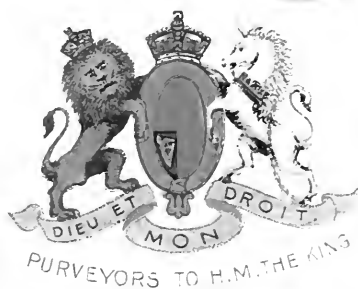
| Days Duration - | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 18 | 21 | 28 | 42 | 120 | Total Cases |
|-----------------|---|----|----|----|----|---|----|----|----|----|----|----|----|----|----|----|-----|-------------|
| Under 1 year . | - | 2 | 5 | 12 | 3 | 4 | 1 | 3 | 1 | 2 | 1 | 3 | 4 | 2 | 2 | 2 | - | 47 |
| 1 to 2 years .. | 2 | 10 | 10 | 7 | 6 | 1 | 5 | 2 | - | - | - | 1 | - | 3 | - | - | 1 | 48 |
| 2 to 3 „ . | 2 | 9 | 3 | 7 | 2 | - | 2 | - | 2 | - | - | 1 | - | 1 | - | 1 | - | 30 |
| 3 to 4 „ .. | - | 6 | 4 | 2 | 2 | - | - | - | 1 | - | - | - | - | - | - | - | - | 15 |
| 4 to 5 „ .. | - | 2 | 2 | 2 | - | 1 | - | - | - | - | - | - | - | 1 | - | - | - | 8 |
| Total cases .. | 4 | 29 | 24 | 30 | 13 | 6 | 8 | 5 | 4 | 2 | 1 | 5 | 4 | 7 | 2 | 3 | 1 | 148 |

Climate is believed to be one of the factors which contributes largely to the low death-rate and short duration in that State, for the disease runs a more favourable course in elevated situations and dry atmospheres than it does in the seaboard towns.

INSANITY.

THE January number of the *Westminster Review* contained, amongst a number of good articles, a remarkable one on insanity. The facts brought to light by the article are so appalling that the first question suggested to the reader must be whether something cannot be done to arrest the spread of the disease. The special feature of the *Review*—viz., the sections on contemporary literature, including those on science, philosophy and theology, sociology, politics, travels, belles lettres, history and biography, &c.—are well worth reading.

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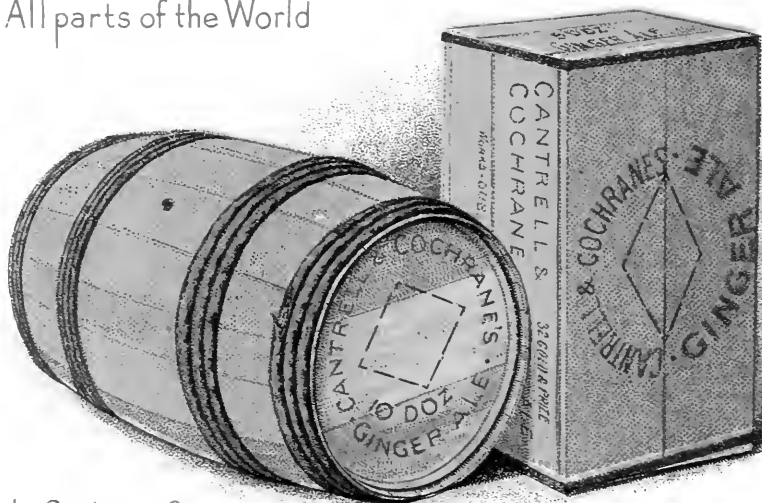
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PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—LOMBE ATTHILL, M.D., F.R.C.P.I.

General Secretary—JOHN B. STORY, M.B., F.R.C.S.I.

SECTION OF PATHOLOGY.

President—E. J. MCWEENY, M.D.

Sectional Secretary—A. H. WHITE, F.R.C.S.I.

Friday, December 5, 1902.

THE PRESIDENT in the Chair.

Sarcoma of the Left Suprarenal Capsule.

DR. EARL showed a case of this disease with secondary growth in the thorax, involving the right lung, the pericardium, and right auricle, and causing narrowing and thrombosis of the superior vena cava.

THE PRESIDENT wished to know whether the material found inside the superior vena cava was in the nature of a thrombus, and if so whether Dr. Earl regarded it as an embolus or as something which grew from the lung and auricle into and through the walls of the vein—*i.e.*, whether it was a thrombus due to loss of vitality or to growth of the tumour? He said it would be interesting to study the relations of the tumour to the walls of the vein and of the auricle, as to whether it infiltrated these structures or not.

DR. EARL, in replying, said that he looked upon the material as an ordinary thrombus, due to slowing of the circulation and infiltration of the vein walls. He made no microscopic examination of it, but it was partly white, partly red, and probably did not contain any tumour tissue.

Cancer of the Transverse Colon.

DRS. MAUNSELL and EARL showed this case. There was a small polypus in the neighbourhood of the tumour, which presented histological characters which appeared to indicate malignancy.

PROFESSOR O'SULLIVAN said he was inclined to regard the polypus as an adenomatous growth due to irritation of the malignant growth. He had seen a case in which there was a row of these lying round the cancer.

THE PRESIDENT said it would be interesting to find two malignant tumours existing independently of each other, for example in the bowel. If he had seen the specimen without previous knowledge of it he would have thought it more than a simple tumour. He thought it was a cancer of the bowel in its very initial stage.

DR. EARL, in replying, agreed that if it was malignant it was a very early stage. Dr. O'Sullivan had mentioned a case in which there was a ring of these growths round a cancer, and said that he considered them innocent, but he might as well have considered them malignant if they had a structure similar to that which he now showed. He said that two independent malignant processes did sometimes occur—there might be a cancerous tumour on one wall of the œsophagus, and another on the other wall, with healthy tissue between. The question of the changes of cells was of most importance in connection with curetings of the uterus. Though the structure of the mucous membrane of the intestine was not the same as that of the uterus, the same general laws held good.

Dropsy of the Gall-Bladder.

DR. EARL showed a case due to obstruction of the cystic duct by a gall-stone.

Intraocular Tumour.

MR. ARTHUR BENSON read the notes of a case which occurred in the left eye of a child, aged three. Six months before admission to St. Mark's Ophthalmic Hospital, the creamy white reflex from the pupil was noticed, but there was no pain apparently. On admission the cornea and lens were perfectly clear, the iris was discoloured and vascular, with numerous vessels visible on its surface. The vitreous chamber was completely filled by a creamy coloured tumour, which had moulded itself against the posterior surface of the lens. The tension of the eye was $+ 2$; this, added

to the appearances, made the diagnosis of pseudo-glioma very improbable, whilst the age of the child was against sarcoma of the choroid, so that glioma of the retina was the most probable diagnosis. Enucleation was done and the globe examined by Dr. Neville, who reported as follows :—" On microscopical examination the tumour shows the characters of a round-celled sarcoma, of a markedly cylindromatous type. The tumour cells form well-marked sheaths for many of the vessels, in the neighbourhood of which the cells are both larger and stain better than they do outside the range of immediate nutritive supply. There are areas of hæmorrhage, and also semi-necrosis, where nuclei stain feebly, and scattered through the mass are many areas of calcification, some smaller vessels having completely calcareous coats. Examined unstained the cells do not show any abnormal pigmentation. Mallory's glia-stain fails to show any gliomatous structure, and the sections so far made do not help to solve the question of the origin of the tumour. The remaining part of the tumour is being decalcified."

THE PRESIDENT fully agreed in not giving the name glioma to the tumour. In most of these cases of intraocular tumour springing from the retina, the characteristic spider cells were not seen, even in staining by the Golgi method. True glioma of the retina was very rare. He had heard of a case of a child, aged four, who was attacked by this disease in both eyes, and from each of them there was a tumour projecting as large as a closed fist of an adult.

DR. EARL could not agree with Drs. McWeeney and Neville in calling these growths sarcomata. They could be traced to the retina itself, and our ordinary view of sarcomata was that they were connective tissue growths, while there was very little of this tissue in the retina. Again, in ordinary glioma of the brain the spider cells were not found with any readiness, and the growths there also frequently resembled sarcomata. He considered neuro-epithelioma the best term for such tumours as Mr. Benson showed.

PROFESSOR O'SULLIVAN said that the tumour seemed to consist of two parts, one surrounding the vessels and consisting of large cells, and the other consisting of small round cells corresponding in appearance to those found in what is called glioma of the retina. He did not see why these tumours should be called gliomata, considering they were derived from the inner molecular layer of the retina. The different characters of the two parts of this tumour seemed to him to make the diagnosis unusually complicated and difficult.

THE PRESIDENT said there were certainly two kinds of cells of different sizes in the tumour, one with large nuclei packed close together and little protoplasm, the other with very small nuclei and no protoplasm. The nomenclature of these tumours was very unsatisfactory. There were two standpoints from which to consider them, the morphological and the histogenetic. Morphologically these tumours were to be classed with small, round-celled sarcomata. Histogenetically they might belong to the epithelial class of tumours. Whether they originated from epithelial sources was open to discussion. Supposing those cells were of epithelial origin, morphologically they did not resemble epitheliomata; they were sarcomata.

The Section then adjourned

SECTION OF SURGERY.

President—L. H. ORMSBY, P.R.C.S.I.

Sectional Secretary—JOHN LENTAIGNE, F.R.C.S.I.

Friday, December 12, 1902.

THE PRESIDENT in the Chair.

Cystic Tumour of the Brain.

MR. E. H. TAYLOR read a paper on cystic tumour of the brain. The patient, a man, aged thirty-two, had enjoyed good health up to March, 1901. Subsequent to this date he began to experience progressive weakness in his left lower extremity, which extended upwards so as to involve his arm and his face, also on the left side to some extent. Sensation was somewhat dulled on the paralysed side. There had never been any convulsive attack or giddiness. The classical symptoms of intracranial pressure were very marked—viz., optic neuritis with progressively failing sight, frequent and paroxysmal headache and vomiting. The diagnosis made was that of a subcortical tumour in the right cerebral hemisphere and in the vicinity of the motor area. Operation was performed on April 26th, 1902. A large omega-shaped flap, 3 ins. by 3 ins., was raised, including the scalp and the subjacent bone; two-thirds of the flap lay in front, one-third behind, the line indicating the fissure of Rolando, or the sulcus centralis. In the process of elevating the bone a number of small trephine holes were made and the intervening bridges of bone divided with Gigli's saws. The dura when exposed was very tense and did not pulsate. On dividing the membrane and turning it aside, the brain bulged into the opening in an alarming fashion. No tumour

was visible or could be felt: fluctuation, however, was very evident quite close to the brain surface. An incision made through the cortex permitted the escape of a quantity of clear, straw-coloured fluid, the result being that the brain instantly collapsed and receded very considerably from the inner aspect of the cranium. A sterilised soft rubber tube, introduced into the cavity for drainage purposes, could be pushed easily in different directions, revealing a cavity of some magnitude. The bone flap and dura mater were replaced, and the tube brought out through one of the trephine holes at the posterior margin of the flap. Meningeal hæmorrhage caused some trouble and delayed the concluding steps of the operation. Patient bore the operation well. There was temporary paralysis in the left arm for some time afterwards; however, the after-course of events has been satisfactory; the left lower extremity has recovered its power, so also has the upper extremity. The patient is able to perform his regular work as well as usual, and has never had any symptoms of headache or vomiting since the operation. His sight has also improved. An interesting feature of the case is that more than three months ago a slight convulsive seizure occurred in the left arm, suggestive of the onset of Jacksonian epilepsy; for this the patient was put on fairly large doses of bromide of potassium. His general health is excellent at present, and according to his own statement he has never been better; his vision too, has improved. The last observation as to the patient's condition was made on November 28th, seven months after the operation.

MR. MAUNSELL said that he thought that the fracturing of the base of the bone flap was not right. It would be better if it were first nearly sawn through with a Gigli saw.

SIR THOMAS MYLES in a case of glioma had found the introduction of the Gigli saw very difficult: it had, however, the merit of causing little or no bleeding. Sir Thomas explained why Mr. Maunsell's method was not applicable. He thought it was impossible to make a differential diagnosis between a cystic tumour and a glioma.

DR. HAUGHTON said that if the centre of motor disturbance was located it might have been better to make a small trephine hole over the tumour, introduce a small needle and ascertain if it were a fluid tumour. This method would not cause much brain disturbance and would give the necessary information.

THE PRESIDENT detailed a case of abscess of the brain he had recently operated on with good results.

MR. E. H. TAYLOR said his own experience was that the bone breaks cleanly across. If a spicule did appear it could easily be snipped off with a forceps. The difficulties in brain tumours were three in number. 1. Diagnosis. 2. In what part is a tumour situated? 3. Is it capable of being removed? With regard to the trephine holes, he said if he were doing the operation again he would just make two and make vertical sections on each side with the forceps. With regard to anatomical measurements he said he thought it desirable to define approximately the underlying portions of the cortex. He found a depressed fracture situated near the motor area. He did not approve Dr. Haughton's plan of trephining a small hole and putting in a small syringe.

Two Unusual Cases of Nephrectomy.

MR. R. C. B. MAUNSELL read a paper on two unusual cases of nephrectomy. The first case was that of a female infant of sixteen months, from whom he removed a congenital cystic kidney which weighed 3 lbs. 2 ozs. and measured 22 by 16 ins. in circumference. The child made an uneventful recovery. Mr. Maunsell advocated ether as the anæsthetic for children, and gave his reasons for choosing an oblique incision commencing at the eighteenth intercostal space and sloping to the middle line below the umbilicus, the sheath of the rectus being opened without cutting the muscle fibres. The second case was one of pyonephrosis, complicated by subphrenic abscess following occlusion of the ureter. Mr. Maunsell treated it by Ollier's subcapsular nephrectomy, and gave reasons for this choice. The pathology of the cystic kidney was then discussed and it seemed to support the theory of an origin in foetal papillitis.

MR. TAYLOR thought the subcapsular method of securing the kidney very useful in some cases.

MR. LENTAIGNE said that he had found the subcapsular method of operation very easy in a case of tuberculous kidney without perinephritis. He related a case in which he had drained both kidneys for calculous pyelitis with complete success.

MR. GORDON said that in these congenital cystic kidneys the affection was bilateral, and one would fear that the second kidney might become inefficient. He considered the incision from tip of the last rib towards the sheath of the rectus a very good one.

DR. WAYLAND said that as regarded anæsthetics for children he agreed with Mr. Maunsell that ether is better than chloroform.

There were only two drawbacks to ether: 1.—It was more unpleasant; 2, there was a liability to accumulation of mucus. Both these were only temporary, and the second one ceased soon after commencement of operation.

MR. MAUNSELL, in replying, said that the reason he performed nephrectomy in this case was that he knew the history of the case, and that there was no chance of the ureter becoming pervious. Besides, the patient was moribund from cancer. He thought the subcapsular should be the primary operation in such a case, as the pedicle could be got at in case of hæmorrhage. He said he always gave ether to children, even in removing tonsils and adenoids.

The Section then adjourned.

SECTION OF MEDICINE.

President—A. V. MACAN, M.B., P.R.C.P.I.

Sectional Secretary—R. TRAVERS SMITH, M.D.

Friday, December 19, 1902.

DR. WALTER G. SMITH in the Chair.

The Finsen Treatment for Lupus.

DR. C. M. O'BRIEN read a paper based on his experiences of a year's trial of this method. He exhibited a number of patients already subjected to the method, and gave short, descriptive histories. The cases presented great variety in extent, character, and duration, which varied from two to twenty-eight years. The cure of some and improvement of all attended his efforts, while the cure of others appeared to him to be merely a matter of time. As regards permanency of cure he was of the opinion that the method was entitled to a premier place in this respect. This opinion he formed from personal examination of many cases at the Finsen Institute, Copenhagen, that were cured, and remained so from one to six years. He gave a demonstration of the lamp and its method of application, and said that most of the objections hitherto complained of in the use of the French lamp as compared with the Finsen lamp could be obviated by prolonging the duration of each sitting, while at the same time increasing the intensity of the light. The reactions were in all cases better, and penetration to the deeper tissues more manifest.

THE CHAIRMAN said that, as regarded test of cure, naked eye

inspection was not sufficient. His method was to press blood away from the part with a watch glass, and see whether any of certain characteristic brown nodules were still left in the skin. There were different methods of treatment: 1. Excision. He thought that this, combined with careful suturing, gave good results in suitable cases. 2. Caustic treatment, which he did not consider a good one. 3. Radiant energy treatment, of which the Finsen light was a form. The Finsen rays might be defined as filtered light, as only the violet end of the spectrum is used. The action of the light was conditioned by the body on which it fell. In the therapeutic contrast between Finsen rays and X-rays, the latter appeared to have a much more stimulant effect on nutrition of skin than the Finsen rays. The X-rays will promote growth of hair, but if pushed too far will produce a depilatory effect.

SIR GEORGE DUFFEY said that in the Royal City of Dublin Hospital they had used the Finsen light since April last, and had had a number of cases which were more or less successful. As regarded cosmetic effect it seemed to be extremely useful in some cases; in other cases the disease was entirely arrested. He had used certain applications in conjunction with the light treatment when the disease was spread over too large a surface for the lamp to cover at once, such as a weak ointment made with pyrogallic acid. He had sittings of fifteen minutes, and even this he sometimes found too long. Some cases reacted more than others. The scar left was more pliable and softer than that resulting from any other treatment.

DR. WATSON said he had treated about twenty cases of skin disease with X-rays. He used the ordinary apparatus, covering up all the sound tissues with lead foil. It was mostly used in those cases of lupus which had refused operation, but those cases which had been previously scraped reacted quicker and better.

DR. KIRKPATRICK had seen a good many cases of lupus treated by scraping, and he thought the reason that this treatment had fallen into disrepute was that patients expected to be cured by one operation, whereas it needed frequent repetition.

DR. O'BRIEN, in replying, said that a surgeon could not completely remove the disease. The light treatment would cure completely if it were given sufficient time. As regarded the difference between X-rays and Finsen light, the ultra-violet rays were supposed to be bactericidal. With regard to applications. Finsen used a 9 per cent. pyrogallic acid ointment along with the

light, to give better transmission with beneficial results. His experience was that fifteen minutes' sitting gave scarcely any reaction, and he had prolonged sittings to an hour and ten minutes.

Paroxysmal Tachycardia.

DR. JOSEPH O'CARROLL recorded a case which came under his notice in the Whitworth Hospital, Dublin, in July, 1901. The patient was a governess, unmarried, aged thirty-four, who fourteen years previously began to suffer from attacks of violent sub-sternal pain accompanied by rapid cardiac action. These attacks, occasional at first, gradually grew more frequent, till in 1900 they had increased to about five per week. In duration they varied from a few minutes to a few hours. Their onset was preceded by dimness of vision, sometimes amounting to almost complete blindness. Tachycardia was a constant accompaniment of the pain, the heart's rate on some occasions reaching 260 beats per minute. An attack would end by a brief but violent exacerbation of pain and a subjective sensation of something shifting from left to right in the thorax. Many lines of treatment were tried in vain, till finally Dr. O'Carroll administered bromide in gradually increasing doses, when, *post hoc* or *propter hoc*, the paroxysms of pain and heart hurry improved so much that it is now six months since the last attack. The author suggested the possibility of this case being one of "visceral epilepsy."

The Section then adjourned.

THE SOCIETY OF MEDICAL PHONOGRAPHERS.

THIS Society will hold its next Annual Shorthand Examination early in May, 1903. Two prizes will be offered, each of the value of £3, one for first-year students and one for students of more than one year's standing. The competition will be open to any Registered Medical Student in the United Kingdom who has not taken a first prize at one of the Society's previous examinations. It will be held simultaneously in London, Edinburgh, Dublin, and at any provincial medical centre in the United Kingdom at which a candidate or candidates shall offer themselves. There is no entrance fee for the examination. Intending candidates should send in their names as early as possible to Dr. P. G. Griffith, Bonhams, Farnborough, Hants., who will furnish them in return with a detailed Prospectus of the Examination. The latest date for receiving entries will be April 15th, 1903.

THE RAINFALL OF IRELAND.^a

By HUGH ROBERT MILL, D.Sc., LL.D., F.R.S.E.

IN order to determine the true mean annual rainfall of any region it is necessary to have uniform, continuous, and prolonged observations at a large number of well-distributed stations.

It is now possible for the first time to give a fairly satisfactory account of Irish rainfall, though the observing stations at work are only one for every 170 square miles as compared with one for every 20 square miles in England. The number of stations in Ireland has increased from 83 in 1874 to 190 in 1901, an increase of 140 per cent. ; while the number of stations in England and Wales increased only by 120 per cent., and in Scotland only by 32 per cent., in the same period. In 1874 there was not a single record of rainfall from the Counties of Clare, Kildare, Leitrim, Limerick, Longford, or Monaghan ; now there is at least one rain record from every county. The number of stations is still far too small, especially in Connaught ; and after the stimulus of the British Association in Belfast produced its effect in 1875 the number in Ulster has ceased to grow.

| Province | No. of Rain Stations in 1874 | No. in 1875 | No. in 1901 |
|------------------|------------------------------------|-------------|-------------|
| Ulster | 30 | 55 | 56 |
| Connaught . . . | 10 | 15 | 22 |
| Leinster | 26 | 31 | 62 |
| Munster | 17 | 28 | 50 |
| Ireland | 83 | 129 | 190 |

While 1,400 additional stations would be necessary to place Ireland on the same footing as an equal area of England, only 185 additional observers are required to give the same number of rain-gauges per thousand of population.

Perfect records for the ten years 1890-99 exist for 108 stations in Ireland, and by computation thirty-one additional records can

^a Read in Section G of the British Association for the Advancement of Science at the meeting held in Belfast, 1902.

be made available. Of these, twenty records are perfect for the thirty years 1870–99, and fifty-seven records of somewhat shorter duration can be computed with reasonable accuracy. The distribution is not satisfactory, the western half of the country and all the mountainous districts being very poorly represented. Maps have been constructed, however, which give a better representation of Irish rainfall than anything previously compiled.

The map for the thirty years 1870–99 may be taken as showing the true mean fall so far as the limited number of stations makes it possible to do so. There are only three small areas with a fall exceeding 50 inches per annum in the west of Kerry, of Mayo and Galway, and of Donegal respectively. Possibly some parts of the eastern mountains may also have a fall exceeding 50 inches. More than 40 inches falls over the whole of Ireland west of the Foyle and the Shannon, and to the west and south of a line drawn from Limerick through Mallow to Clonmel, whence a narrow belt, equally wet, runs north-eastward through the Counties of Waterford, Wexford, and Wicklow. Two small areas with more than 40 inches occur in the mountains of the south-east of Co. Down and the east of Co. Antrim. All the rest of Ireland has between 30 and 40 inches of rain, except parts of Co. Dublin and Co. Meath, where the fall averages a little less than 30 inches. The following table gives a rough approximation to the areas of the different zones of rainfall :—

| | | | |
|---|---|---|-------------------|
| Under 30 inches (average 29 in.) | . | . | 700 square miles. |
| From 30 to 40 inches (average 35·5 in.) | . | . | 13,200 .. |
| From 40 to 50 inches (average 44 in.) | . | . | 13,500 .. |
| Above 50 inches average 60 in.) | . | . | 5,200 .. |
| | | | <hr/> |
| Ireland | . | . | 32,600 |

This gives an average of 42 inches for the whole country—a figure which, although by no means certain, is probably not very far from the truth.

The variations of rainfall in Ireland are less than those in England. Thus for the ten years 1890–99 the rainfall over Ireland was only 2 per cent. below the thirty years' average; that over England and Wales showed a deficiency of 7 per cent.^a The average rainfall of the ten years was practically the same as that of the thirty years in Central Ireland, a trifle above the average in the north-west, and a little below the average round the north-east, and south coasts.

^a See British Rainfall, 1901, p. 24.

It is to be hoped that existing rainfall stations will be kept up and new ones established in all parts of the country, so that there may be a basis for the accurate measurement of the average quantity of water available for inland navigation, town supply and for power.

Rainfall Averages for Thirty Years, 1870-99.

| Place | 1870-79 | 1880-89 | 1890-99 | 1870-99 |
|--------------------------------------|---------|---------|---------|---------|
| | in. | in. | in. | in. |
| Portlaw, Mayfield, Co. Waterford | 41·65 | 43·31 | 42·18 | 42·38 |
| Glenam, Clonmel „ . | 43·47 | 42·15 | 40·89 | 42·17 |
| New Ross, Longraigue, Co. Wexford | 43·57 | 39·29 | 38·75 | 40·54 |
| Enniscorthy, Ballyhyland „ . | 44·36 | 42·80 | 41·45 | 42·87 |
| Gorey, Courtown House „ . | 38·14 | 35·39 | 33·62 | 35·72 |
| Inistioge, Woodstock, Co. Kilkenny | 46·64 | 41·67 | 38·50 | 42·27 |
| Bray, Fassaroe, Co. Wicklow . | 38·70 | 43·28 | 39·68 | 40·55 |
| Carlow, Browne's Hill, Co. Carlow . | 36·09 | 33·59 | 33·65 | 34·44 |
| Dublin, Fitzwilliam-square, Dublin | 28·47 | 27·47 | 27·30 | 27·75 |
| Athlone, Twyford, Co. Westmeath | 40·47 | 38·97 | 35·83 | 38·42 |
| Ballinasloe, Co. Galway . . . | 38·89 | 35·66 | 36·58 | 37·04 |
| Tuam, Gardenfield (6 ft), Co. Galway | 38·43 | 42·76 | 41·85 | 41·01 |
| Belturbet, Redhills, Co. Cavan . | 36·57 | 34·57 | 34·42 | 35·19 |
| Armagh Observatory, Co. Armagh | 30·95 | 32·16 | 30·97 | 31·36 |
| Seaforde, Co. Down | 41·67 | 37·89 | 36·27 | 38·61 |
| Banbridge, Milltown, Co. Down . | 32·75 | 31·44 | 30·23 | 31·47 |
| Waringstown „ . | 34·03 | 33·02 | 34·14 | 33·73 |
| Belfast, Queen's College, Co. Antrim | 34·92 | 32·77 | 32·00 | 33·23 |
| „ Antrim-road „ | 33·86 | 34·57 | 35·28 | 34·57 |
| Omagh, Edenfel, Co. Tyrone . | 37·25 | 36·63 | 39·66 | 37·85 |

THE PHYSICAL ASPECTS OF A THEORY OF COLOUR VISION.

IN Section A of the British Association, at the meeting held in Belfast in September, 1902, F. W. EDRIDGE-GREEN, M.D., F.R.C.S., read a paper, of which the following is an abstract :—

The view which I wish to bring forward is that each optic nerve fibre is able to convey impulses corresponding to all kinds of light ; that is to say, a very similar condition exists in the impulses which are transmitted along the optic nerve to that which is accepted for waves of light previous to their entering the eye. The limitation of the number of colour sensations was thought to be necessary because it seemed physically impossible that a single fibre of the optic nerve could convey all waves of light. The facts of colour vision can only be satisfactorily explained on the assumption that each optic nerve fibre does convey impulses corresponding to all waves of light. It occurred to me that if there were a transforming apparatus in the eye we could explain the facts. The telephone shows how this may be accomplished in the case of sound. I saw that the retina was constructed in a manner theoretically perfect from this point of view. The percipient layer of the retina is made up of two kinds of elements—the rods and the cones. The portion of the retina corresponding to the central portion of the field of vision contains only cones. External to this spot the cones are arranged with one or more rings of rods round them, the single ring being round those cones which are nearest to the central portion. In the rods there is a rose-coloured substance, the visual purple, which is very sensitive to light. This photo-chemical substance is found exclusively in the rods. I assumed that light falling upon the eye liberated the visual purple from the rods, just as heat would an ointment, and a photograph is formed. The decomposition of the visual purple by light chemically stimulates the ends of the cones, and a visual impulse is set up, which is conveyed through the optic nerve fibres to the brain. I have examined the retinas of several monkeys after they had been kept in a dark room, and found that the visual purple was to be seen in the yellow spot, but situated between, and not in, the cones. This view gives a reason for a great many facts which were previously inexplicable. For instance, a bright light may fall upon the fovea (the centre of the yellow spot) without producing any

sensation, and a perceptible interval elapses before we are able to see with the yellow spot, after the remainder of the retina, the fovea being the last point to convey a sensation of light. The first fact we should expect, the cones being insensitive to light; the second corresponds to the diffusion into the yellow spot of the visual purple. All the facts of colour mixing, contrast, and after-images can be explained by the hypothesis that the visual purple is the visual substance. A positive rose-coloured after-image can be obtained after white light or any spectral colour. The ordinary explanation of this—namely, that the action of the hypothetical red and violet fibres persists longer than those for green—cannot be true, because it is exceedingly difficult to obtain this after-image after spectral red, and very easy to see it after green. It would be against the whole principle of the theory that the red fibres should be excited most efficiently by green. But if we assume that the visual purple is the visual substance, then we have an easy explanation of the facts.

The fibres of the optic nerve pass to the visual centre. I have assumed that the visual centre transmits to the mind impressions of white light, and that by it objects are seen monochromatically, as in a photograph. The visual centre is, therefore, acted upon by impulses caused by all rays of light, the colour-perceiving centre being concerned with the quality of the impulse within the power of perceiving differences possessed by that centre, or portions of that centre.

I will now apply this theory to colour-blindness, and it will be seen that it gives a simple explanation of the facts.

Cases of colour-blindness may be divided into two classes, which are quite separate and distinct from each other, though both may be present in the same person. In the first class there is light as well as colour loss. In the second class the perception of light is the same as the normal sighted, but there is a defect in the perception of colour. In the first class certain rays are either not perceived at all or very imperfectly. Both these classes are represented by analogous conditions in the perception of sounds. The first class of the colour-blind is represented by those who are unable to hear very high or very low notes. The second class of the colour-blind is represented by those who possess what is commonly called a defective musical ear. Colour-blind individuals belonging to this class can be arranged in a series. At one end of this series are the normal sighted, and at the other the totally colour-blind. The colours appear at the points of greatest differ-

ence, and I have classified the colour-blind in accordance with the number of colours which they see in the spectrum. If the normal sighted be designated hexachromic, those who see five colours may be called pentachromic; those who see four, tetrachromic; those who see three, trichromic; those who see two, dichromic; and the totally colour-blind, monochromic. There are many degrees included in the dichromic class. There may or may not be a neutral band, and this is widest in those cases approaching most nearly to total colour-blindness. I have recorded a case of a patient who was colour-blind with one eye. It is an interesting fact that for form vision the colour-blind eye was much the better of the two, and he could recognise fine lines in the spectrum with this eye which were not visible to the other. He saw the two ends of the spectrum tinged with colour and the remainder grey. It will be noticed that his colour sensations were limited to the extreme red and the extreme violet—namely, those colours which present the greatest physical contrast to each other. Neither the red nor the violet appeared of the nature of a primary colour, but gave the impression that they were largely diluted with grey. A theory of colour vision must account for a case of this kind and also for the other varieties and degrees of colour-blindness. The trichromic are a very important class, and any theory must account for the fact that they see yellow as red-green and blue as violet-green. As we should theoretically expect, when there is shortening of the spectrum the centres of the colours are moved towards the unshortened side.

I will conclude by showing how this theory will explain the trichromatism of normal colour vision. It also explains why certain persons see spectral yellow as red-green and spectral blue as green-violet. In past ages all saw the rainbow made up of only three colours, red, green, and violet. When a new colour appeared between the red and green (yellow) it is obvious that a mixture of red and green would give rise, not to red-green, but to the colour which had replaced it—namely, yellow.

SANITARY AND METEOROLOGICAL NOTES.

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VITAL STATISTICS.

For four weeks ending Saturday, January 3, 1903.

IRELAND.

TWENTY-TWO TOWN DISTRICTS.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending January 3, 1903, in the Dublin Registration Area and the twenty-one principal provincial urban districts of Ireland was 28·9 per 1,000 of their aggregate population, which, for the purposes of these returns, is estimated at 1,092,401. The deaths registered in each of the four weeks ended Saturday, January 3, and during the whole of that period, in the several districts, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

| Towns, &c. | Week ending | | | | Average Rate for 4 weeks | Towns, &c. | Week ending | | | | Average Rate for 4 weeks |
|--------------------|-------------|---------|---------|--------|--------------------------|-------------|-------------|---------|---------|--------|--------------------------|
| | Dec. 13 | Dec. 20 | Dec. 27 | Jan. 3 | | | Dec. 13 | Dec. 20 | Dec. 27 | Jan. 3 | |
| 22 Town Districts | 25·8 | 27·8 | 21·9 | 28·9 | 26·1 | Lisburn - | 18·2 | 18·2 | 18·2 | 18·2 | 18·2 |
| Armagh - | 34·4 | 6·9 | 27·5 | 20·6 | 22·4 | Londonderry | 16·6 | 21·8 | 11·5 | 26·9 | 19·2 |
| Ballymena | 14·4 | 4·8 | 14·4 | 19·2 | 13·2 | Lurgan - | 8·9 | 26·6 | 13·3 | 26·6 | 18·9 |
| Belfast - | 26·2 | 25·6 | 21·7 | 28·6 | 25·5 | Newry - | 33·6 | 25·2 | 21·0 | 46·2 | 31·5 |
| Clonmel - | 15·4 | 10·3 | 51·3 | 5·1 | 20·5 | Newtownards | 5·7 | 34·3 | 11·4 | 17·2 | 17·2 |
| Cork - | 12·3 | 26·7 | 29·5 | 39·0 | 24·6 | Portadown | 10·3 | 10·3 | 25·8 | 20·7 | 16·8 |
| Drogheda - | 45·0 | 40·9 | 49·0 | 40·9 | 43·9 | Queenstown | 13·2 | 26·4 | 13·2 | 0·0 | 13·2 |
| Dublin (Reg. Area) | 29·2 | 30·3 | 24·6 | 29·5 | 28·5 | Sligo - | 19·2 | 4·8 | 19·2 | 19·2 | 15·6 |
| Dundalk - | 19·9 | 31·9 | 27·9 | 12·0 | 22·9 | Tralee - | 21·1 | 26·4 | 5·3 | 10·6 | 15·9 |
| Galway - | 42·7 | 38·8 | 23·3 | 38·8 | 35·9 | Waterford | 11·7 | 35·1 | 7·8 | 21·4 | 19·0 |
| Kilkenny - | 29·5 | 14·7 | 19·7 | 29·5 | 23·4 | Wexford - | 28·0 | 46·7 | 9·3 | 23·3 | 26·8 |
| Limerick - | 47·8 | 41·0 | 19·1 | 41·0 | 37·2 | | | | | | |

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases, registered in the 22 districts during the week ended Saturday, January 3, were equal to an annual rate of 4·0 per 1,000, the rates varying from 0·0 in eleven of the districts to 13·3 in Lurgan—the 6 deaths from all causes registered in that district including one from whooping-cough, one from diphtheria, and one from diarrhoea. Among the 197 deaths from all causes in Belfast are 30 from measles, 2 from scarlet fever, 2 from whooping-cough, 3 from diphtheria, one from enteric fever, and 2 from diarrhoea. The 30 deaths in Limerick include 8 from measles and one from enteric fever.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area now consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this Area is 378,766; that of the City being 293,394, Rathmines 33,208, Pembroke 26,025, Blackrock 8,759, and Kingstown 17,380.

In the Dublin Registration Area the births registered during the week ended Saturday, January 3, amounted to 267—152 boys and 115 girls; and the deaths to 224—114 males and 110 females.

DEATHS.

The registered deaths represent an annual rate of mortality of 30·8 in every 1,000 of the population. Omitting the deaths (numbering 10) of persons admitted into public institutions from localities outside the Area, the rate was 29·5 per 1,000. During the fifty-three weeks ending with Saturday, January 3, the death-rate averaged 25·3, and was 1·1 below the mean rate for the corresponding portions of the ten years 1892–1901.

There were 9 deaths from measles—in the preceding 4 weeks the deaths registered were respectively 9, 10, 9, and 7. Deaths from scarlet fever numbered 4. Influenza caused 6 deaths, diphtheria 4 deaths, typhus, whooping-cough, and enteric fever each one death. There were 3 deaths from *diarrhoea*.

Of 37 deaths from tuberculous diseases, tuberculous phthisis caused 2 deaths, and *phthisis* 22 deaths; tuberculous meningitis caused 3 deaths, tuberculous peritonitis one death, and 7 deaths were due to other forms of the disease.

Three deaths were registered from carcinoma, 2 deaths from sarcoma, and 6 deaths as due to *malignant disease* ("cancer").

There were 15 deaths from diseases of the nervous system, including 7 deaths of children under 5 years of age from *convulsions*.

Diseases of the heart and blood-vessels caused 22 deaths.

Deaths from diseases of the respiratory organs rose from 42 in the preceding week to 51—a number which is equal to an annual rate of 7.0 per 1,000 of the population of the Dublin Registration Area. The annual rate for the fifty-second week of the past 10 years was 7.4 per 1,000. In the above total, 34 deaths from bronchitis, 6 deaths from broncho-pneumonia, one death from croupous pneumonia, and 7 deaths from *pneumonia*, are included.

There were 5 deaths from accidental violence.

In 17 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases comprise the deaths of 11 children under 5 years of age, and the deaths of 4 persons aged 60 years and upwards.

Fifty-eight of the persons whose deaths were registered were under 5 years of age (37 being infants under one year, of whom 10 were under one month old) and 63 were aged 60 years and upwards, including 26 persons aged 70 and upwards, of whom 8 were octogenarians, and 4 (a man and 3 women) were stated to have been aged 100, 98, 92, and 90 years respectively.

The Registrar-General points out that the names of causes of death printed above in italics should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN DUBLIN.

(1.) CASES OF INFECTIOUS DISEASES NOTIFIED TO THE PUBLIC HEALTH COMMITTEE OF THE CORPORATION.

Sir Charles A. Cameron, C.B., Medical Superintendent Officer of Health for the City of Dublin, has furnished information regarding the number of cases of infectious diseases in the City of Dublin notified under "The Infectious Diseases (Notification) Act, 1889," as follows:—

| | | | | |
|----------------------|----------|----------|----|---------------|
| Week ending December | 6, 1902, | .. | .. | 162 cases. |
| " | " | 13, | " | .. 191 cases. |
| " | " | 20, | " | .. 174 cases. |
| " | " | 27, | " | .. 136 cases. |
| " | January | 3, 1903, | .. | .. 119 cases. |

Of the 119 cases notified in the week ended January 3, 13 were

erysipelas, 29 enteric fever, 43 scarlatina, 10 diphtheria, 18 measles, 3 "continued fever," one typhus fever, and 2 "fever."

(2) CASES OF INFECTIOUS DISEASE IN RATHMINES URBAN DISTRICT.

Mr. Fawcett, Executive Sanitary Officer for Rathmines Urban Council, has furnished information regarding the number of cases of infectious disease in the Urban District of Rathmines notified under "The Infectious Diseases (Notification) Act, 1889," as follows :—

| | | | | | |
|-------------|----------|----------|----|----|-----------|
| Week ending | December | 6, 1902, | .. | .. | 8 cases. |
| " | " | 13, | .. | .. | 12 cases. |
| " | " | 20, | .. | .. | 12 cases. |
| " | " | 27, | .. | .. | 4 cases. |
| " | January | 3, 1903, | .. | .. | 4 cases. |

Of the 4 cases notified in the last week, 3 were scarlet fever and one was diphtheria.

(3.) CASES OF INFECTIOUS DISEASE IN PEMBROKE URBAN DISTRICT:

Mr. Manly, Executive Sanitary Officer for Pembroke Urban Council has furnished information regarding the number of cases of infectious disease in the Urban District of Pembroke notified under "The Infectious Diseases (Notification) Act, 1889," as follows :—

| | | | | | |
|-------------|----------|----------|----|----|-----------|
| Week ending | December | 6, 1902, | .. | .. | 12 cases. |
| " | " | 13, | .. | .. | 6 cases. |
| " | " | 20, | .. | .. | 4 cases. |
| " | " | 27, | .. | .. | 9 cases. |
| " | January | 3, 1903, | .. | .. | 7 cases |

Of the 7 cases notified in the last week, 4 were measles, 2 were scarlet fever, and one was enteric fever.

(4.) CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN
DUBLIN HOSPITALS.

During the week ending Saturday, January 3, 1903, nine cases of measles were admitted to hospital, 12 patients were discharged, there were 4 deaths, and 55 cases remained under treatment at the close of the week.

Fourteen cases of enteric fever were admitted to hospital, 15 cases were discharged, there was one death, and 70 cases remained under treatment at the close of the week.

Thirty-three cases of scarlatina were admitted to hospital, 33 cases were discharged, there was one death, and 172 cases remained

under treatment at the close of the week. This number is exclusive of 27 convalescents from scarlatina who remained under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork-street Fever Hospital.

Three cases of typhus were admitted to hospital, 3 cases were discharged, there was one death, and 15 cases remained under treatment at the close of the week.

Thirteen cases of diphtheria were admitted to hospital, 5 were discharged, there was one death, and 5 cases remained under treatment at the close of the week.

In addition to the above-named diseases, 4 cases of pneumonia were admitted to hospital, 3 patients were discharged, there was one death, and 15 cases remained under treatment at the end of the week.

One case of smallpox remained under treatment at the close of the week.

STATE OF INFECTIOUS DISEASE IN THE CITY OF BELFAST.

Dr. Whitaker, Medical Superintendent Officer of Health, has furnished information regarding the number of cases of infectious diseases in the City of Belfast notified under "The Infectious Diseases (Notification) Act, 1889," as follows:—

| | | | | |
|-----------------------|----------|----------|----|-----------|
| Week ending December, | 6, 1902, | .. | .. | 76 cases. |
| " | " | 13, " | .. | 71 cases. |
| " | " | 20, " | .. | 55 cases. |
| " | " | 27, " | .. | 52 cases. |
| " | January | 3, 1903, | .. | 70 cases. |

Of the 70 cases notified in the week ended January 3, 1903, 11 were enteric fever, 16 erysipelas, 8 diphtheria, 5 membranous croup, 5 "continued fever," 22 scarlet fever, and 3 were puerperal fever.

ENGLAND AND SCOTLAND.

The mortality for the week ended Saturday, January 3, 1903, in 76 large English towns, including London (in which the rate was 20·9), was equal to an average annual death-rate of 20·0 per 1,000 persons living. The average rate for eight principal towns of Scotland was 21·6 per 1,000, the rate for Glasgow being 23·3, and for Edinburgh 18·7.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N. Long., 6° 15' W., for the Month of December, 1902.

| | | | | |
|---|---|---|---|----------------|
| Mean Height of Barometer, | - | - | - | 29.991 inches. |
| Maximal Height of Barometer (4th, at 9 p.m.), | - | - | - | 30.533 „ |
| Minimal Height of Barometer (29th, at 2 p.m.) | - | - | - | 28.871 „ |
| Mean Dry-bulb Temperature, | - | - | - | 43.3°. |
| Mean Wet-bulb Temperature, | - | - | - | 41.1°. |
| Mean Dew-point Temperature, | - | - | - | 38.4°. |
| Mean Elastic Force (Tension) of Aqueous Vapour, | - | - | - | .238 inch. |
| Mean Humidity, | - | - | - | 83.6 per cent. |
| Highest Temperature in Shade (on 17th) | - | - | - | 58.0°. |
| Lowest Temperature in Shade (on 7th), | - | - | - | 29.6°. |
| Lowest Temperature on Grass (Radiation) (7th) | - | - | - | 23.5°. |
| Mean Amount of Cloud, | - | - | - | 72.8 per cent. |
| Rainfall (on 13 days), | - | - | - | 1.563 inches. |
| Greatest Daily Rainfall (on 14th), | - | - | - | .272 inch. |
| General Directions of Wind, | - | - | - | W., S.E. |

Remarks.

A very open month, although cold periods occurred between the 3rd and 8th in connection with an anticyclone, and from the 28th to the close in relation to a large and deep atmospheric depression, in which the barometer sank to 28.250 inches at Wick, at 8 a.m. of the 29th. Three days earlier the barometer touched 27.96 inches in the centre of a very large and deep disturbance near St. Petersburg. During the anticyclonic period early in the month persistent and severe cold prevailed in eastern and central Europe. Even in England also there was some sharp freezing—the thermometer falling to 14° at Loughborough on the morning of the 7th. It was not until the 16th that a general thaw set in over Germany. Just before Christmas the weather was both genial and fine, but a stormy, rainy period set in on Christmas Day. In Dublin City the estimated duration of bright sunshine was 53½ hours, or a daily average of 1.72 hours.

In Dublin the arithmetical mean temperature (44.1°) was above the average (41.7°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 43.3°. In the thirty-seven years ending with 1901, December was coldest in 1878 (M. T. = 32.8°), and in 1874 (M. T. = 36.8°); warmest in 1898 (M. T. = 47.6°), and in 1900 (M. T. = 47.1°).

The mean height of the barometer was 29.991 inches, or 0.116

inch above the corrected average value for December—namely, 29·875 inches. The mercury rose to 30·533 inches at 9 p.m. of the 4th, and fell to 28·871 inches at 2 p.m. of the 29th. The observed range of atmospheric pressure was, therefore, 1·662 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 43·3°, or 3·5° below the value for November, 1902. Using the formula, *Mean Temp.* = *Min.* + (*Max.* - *Min.* × ·52), the value was 44·2°, or 2·3° above the average mean temperature for December, calculated in the same way in the thirty years, 1871–1900, inclusive (41·9°). The arithmetical mean of the maximal and minimal readings was 44·1°, compared with a thirty years' average of 41·7°. On the 17th the thermometer in the screen rose to 58·0°—wind, S.; on the 7th the temperature fell to 29·6°—wind, S.E. The minimum on the grass was 23·5°, also on the 7th. There was frost in the screen on 3 days, and 9 days of frost on the grass were recorded.

The rainfall was 1·563 inches, distributed over 13 days. The average rainfall for December in the thirty-five years, 1866–1900, was 2·390 inches, and the average number of rainy days was 18. The rainfall, therefore, and also the rainy days were much below the average. In 1876 the rainfall in December was very large—7·566 inches on 22 days. In 1868 (which was otherwise a fine and dry year), 4·749 inches fell on as many as 27 days. On the other hand, in 1867, only ·771 inch was measured on 13 days; in 1885, only ·742 inch on 10 days; in 1892, only ·795 inch on 10 days; and in 1871, only ·797 inch on 15 days. In 1901, 1·989 inches of rain fell on 23 days.

A lunar halo was seen on the 13th. High winds were noted on as many as 19 days, and attained the force of a gale on seven occasions—the 1st, 14th, 16th, 25th, 27th, 28th, and 30th. The atmosphere was more or less foggy in Dublin on the 2nd, 3rd, and 7th. Snow or sleet fell on the 28th and 29th.

The rainfall in Dublin during 1902 amounted to 29·375 inches on 203 days, compared with 26·075 inches on 179 days in 1901, 34·338 inches on 216 days in 1900, 27·737 inches on 186 days in 1899, 27·048 inches on 194 days in 1898, 29·344 inches on 211 days in 1897, 26·901 inches on 194 days in 1896, 31·242 inches on 194 days in 1895, 29·261 inches on 209 days in 1894, only 20·493 inches on 174 days in 1893, 25·644 inches on 196 days

in 1892, only 16·601 inches on 160 days in 1887, and a thirty-five years' average of 27·770 inches on 198 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall was 2·920 inches on only 11 days. Of this quantity ·950 inch fell the 1st, and ·530 inch on the 16th. From January 1st to December 31st, 1901, rain fell at Knockdolian on 168 days, to the total amount of 40·021 inches. The corresponding figures for 1894 were 38·776 inches on 184 days; 1895, 35·135 inches on 174 days; 1896, 36·102 inches on 169 days; 1897, 42·885 inches on 210 days; 1898, 30·546 inches on 171 days; 1899, 36·690 inches on 182 days; 1900, 42·716 inches on 191 days; and 1901, 34·750 inches on 167 days.

Dr. B. H. Steede reports that at the National Hospital for Consumption at Newcastle, Co. Wicklow, rain fell on only 9 days, but to the considerable amount of 2·499 inches, ·563 inch being measured on the 1st, ·530 inch on the 14th, and ·568 inch (the maximum) on the 15th. The highest shade temperature was 57·2° on the 17th., the lowest was 30·5° on the 7th. At 9 p.m. of the 16th the thermometer stood at 57·0° in the open air. The rainfall for the year 1902 at this Station of the Second Order was 37·792 inches, distributed over 181 days. These figures compare with 40·193 inches on 194 days in 1897, 33·140 inches on 174 days in 1898, 34·699 inches on 174 days in 1899, 37·256 inches on 188 days in 1900, and 31·931 inches on 181 days in 1901.

The rainfall at Cloneevin, Killiney, was 2·08 inches on 14 days. The maximal fall in 24 hours was ·55 inch on the 1st. The average December rainfall of the 17 years (1885–1901) was 2·442 inches on 17·7 days.

Dr. Arthur S. Goff reports that at Lynton, Dundrum, Co. Dublin, rain fell on 16 days to the amount of 2·36 inches, ·46 inch being measured on the 1st. Temperature ranged from 56° on the 13th, 14th, and 16th to 29·0° on the 7th and 8th. The mean shade temperature was 42·8° Fahrenheit.

At the Railway Hotel, Recess, Connemara, Co. Galway, the rainfall was 4·760 inches on 20 days, compared with 9·413 inches on 26 days in December, 1899, 7·810 inches on 27 days in 1900, and 7·667 inches on 20 days in 1901. On the 15th 1·20 inches fell.

In the City of Cork the rainfall was 3·06 inches on 20 days, the maximal fall in 24 hours being ·66 inch on the 15th.

At the Ordnance Survey Office, Phoenix Park, Dublin, rain

fell in December to the amount of 1·618 inches on 15 days. The amount of bright sunshine was 40·9 hours, the largest daily number of hours being 6·5 on the 2nd.

Dr. J. Byrne Power, F. R. Met. Soc., Medical Superintendent Officer of Health, Kingstown, Co. Dublin, reports that the mean temperature at that health resort was 44·5°, being 0·3° below the average for December during the previous four years. The extremes were—highest, 58·0° on the 16th; lowest, 33·5° on the 29th. The mean temperature at Portland Bill, situate about midway between Torquay and Ventnor, Isle of Wight, was 42·7°, the extremes being—highest, 53° on the 14th; lowest, 25° on the 7th. The mean daily range of temperature was 5·6° at Kingstown; at Portland it was 6·9°. The average sea temperature at Sandycove Bathing Place was 47·4°. The rainfall at Kingstown for the month amounted to 1·59 inches on 13 days; at Portland it was 1·53 inches on 14 days. The mean humidity of the air was 81 per cent. The duration of bright sunshine was 39·6 hours, whereas it was 40·9 hours at the Ordnance Survey Office, Phoenix Park, 37·9 at Parsonstown, 17·6 at Valentia, 18·8 at Southport, and 39·6 hours at Eastbourne.

The total rainfall at Kingstown for the year 1902 amounted to 30·14 inches on 175 days, being 1·31 inches above the average for 12 years (1873–1880 and 1898–1901). The greatest monthly rainfall was in September, amounting to 4·23 inches, and on the 3rd of that month 2·83 inches fell in 24 hours, being the greatest daily rainfall of which there is a record at Kingstown. The annual mean temperature was 50·3°, being 0·2° below the average for 12 years (1873–1880 and 1898–1901). The total duration of bright sunshine during the year was 1,377 hours, whereas at the Ordnance Survey Office, Phoenix Park, it was 1,452 hours, and at Eastbourne it was 1,683·0 hours.

RAINFALL IN 1902

*At 40 Fitzwilliam-square, West, Dublin.**Rain Gauge :—Diameter of Funnel, 8 in. Height of top—Above ground, 1 ft. 4 in. ; above sea level, 50 ft.*

| Month | Total Depth | Greatest Fall in 24 Hours | | Number of Days on which .01 or more fell |
|--------------|-------------|---------------------------|------|--|
| | Inches | Depth | Date | |
| January, - | 1·614 | ·692 | 10th | 12 |
| February, - | 1·748 | ·918 | 26th | 10 |
| March, - | 1·752 | ·366 | 24th | 21 |
| April, - | 2·061 | ·597 | 4th | 16 |
| May, - | 2·798 | ·619 | 30th | 22 |
| June, - | 2·371 | ·738 | 19th | 17 |
| July, - | 3·163 | 1·342 | 25th | 17 |
| August, - | 2·949 | ·924 | 6th | 18 |
| September, - | 2·969 | ^a 2·075 | 2nd | 16 |
| October, - | 3·056 | ·809 | 4th | 23 |
| November, - | 3·331 | ·880 | 6th | 13 |
| December, - | 1·563 | ·272 | 14th | 13 |
| Total, - | 29·375 | — | — | 203 |

The rainfall was 29·375 inches, or 1·605 inches in excess of the average annual measurement of the thirty-five years, 1866–1900, inclusive—viz., 27·770 inches.

It is to be remembered that the rainfall in 1887 was very exceptionally small—16·601 inches—the only approach to this measurement in Dublin being in 1870, when only 20·859 inches fell; in 1884, when the measurement was 20·467 inches; and in 1893, with its rainfall of 20·493 inches. In nine of the thirty-five years in question the rainfall was less than 26 inches.

The scanty rainfall in 1887 was in marked contrast to the abundant downpour in 1886, when 32·966 inches—or as nearly as possible double the fall of 1887—fell on 220 days. In 1900 the rainfall was 34·338 inches, or 6·568 inches in excess of the average of the thirty-five years, 1866–1900. Only twice since these records commenced has the rainfall in Dublin exceeded that of 1900—namely, in 1872, when 35·566 inches fell on 238 days, and in 1880, when 34·512 inches were measured on, however, only 188 days.

In 1902 there were 203 rainy days, or days upon which not less than .005 inch of rain (five-thousandths of an inch) was

^a Maximum.

measured. This was 5 above the average number of rainy days, which was 198, in the thirty-five years, 1866–1900, inclusive. In 1868 and 1887—the warm, dry years of recent times—the rainy days were only 160, and in 1870 they were only 145.

In 1902 the rainfall in 24 hours, from 9 a.m. to 9 a.m., only twice exceeded one inch—namely, on July 25th (1·342 inches) and September 2 (2·075 inches). In 1892 the daily rainfall twice exceeded 1 inch—viz., May 28th (2·056 inches) and August 16th (1·310 inches). On no occasion in 1893 did one inch of rain fall on a given day in Dublin. In 1894 falls of upwards of an inch of rain in 24 hours were recorded on 4 occasions—viz., May 15th (1·330 inches); July 24th (1·560 inches); August 25th (1·369 inches); and October 23rd (1·042 inches). In 1895, 1·802 inches fell on January 12th; 1·014 inches on July 24th; and 1·256 inches on July 25th. In 1896, 1·563 inches fell on July 8th; 2·020 inches on July 24th; and 1·388 inches on December 8th. In 1897, 1·166 inches fell on September 1st. In 1898, on November 23rd, 1·732 inches were measured. In 1899, the rainfall exceeded one inch on 4 occasions—namely, July 11th (1·402 inches); August 5th (2·227 inches); September 30th (1·042 inches); and December 28th (1·129 inches). In 1900, as in 1899, the rainfall exceeded one inch on 4 occasions—namely, July 27th (1·783 inches); August 2nd (2·135 inches); November 6th (1·103 inches); and November 27th (1·126 inches). In 1901, the rainfall only once exceeded one inch, but on that occasion (November 11th) the measurement was 2·037 inches. The excessive rainfall on September 2, 1902, is noteworthy—it amounted to 2·075 inches in Dublin (Fitzwilliam-square). It was the eighth occasion only since 1865—that is, in 37 years—upon which 2 inches have been measured in Dublin at 9 a.m. as the product of the preceding 24 hours' precipitation. The previous excessive falls were—August 13th, 1874 (2·482 inches); October 27th, 1880 (2·736 inches); May 28th, 1892 (2·056 inches); July 24th, 1896 (2·020 inches); August 5th, 1899 (2·227 inches); August 2nd, 1900 (2·135 inches), and November 11th, 1901 (2·037 inches).

Included in the 203 rainy days in 1902 are 13 on which snow or sleet fell, and 21 on which there was hail. In January hail was observed on 1 day, in February on 1 day, in March on 5 days, in April on 3 days, in May on 6 days, in August on 1 day, in October on 2 days, and in November on 2 days. Snow or sleet fell on 4 days in January, 2 days in February, 3 days in March, 1 day

in both April and November, and 2 days in December. Thunderstorms occurred once in May and once in June. Lightning was seen once in June, twice in August, and once in November.

The rainfall in the first six months was 12·344 inches on 98 days. The rainfall exceeded 3 inches in July (3·163), October (3·056), and November (3·331).

The rainfall was distributed as follows:—5·114 inches fell on 43 days in the first quarter, 7·230 inches on 55 days in the second, 9·081 inches on 51 days in the third, 7·950 inches on 54 days in the fourth, and last, quarter.

More or less fog prevailed on 51 occasions—6 in January, 10 in February, 6 in March, 5 in April, 1 in June, 4 in August, 8 in September, 2 in October, 6 in November, and 3 in December. High winds were noted on 126 days—13 in January, 6 in February, 10 in March, 12 in April, 7 in May, 5 in June, 10 in July, 4 in August, 6 in September, 14 in October, 20 in November, and 19 in December. The high winds amounted to gales (force 7 or upwards, according to the Beaufort scale) on 26 occasions—3 in January, 3 in February, 1 in March, 2 in April, 1 in May, 3 in July, 2 in September, 1 in October, 3 in November, and 7 in December.

Solar halos were seen on 17 occasions, lunar halos on 6.

Mr. Robert O'Brien Furlong, M.A., C.B., writes:—

The rainfall at Cloneevin, Killiney, for the year 1902 amounted to 32·26 inches on 192 days. As in 1901, the highest monthly fall was in September, when 4·18 inches were measured on 13 days, of which 2·81 inches fell on the 2nd.

The greatest number of days in any month on which rain fell was 21 in March and also in May.

The month of the least rainfall was March, with 1·50 inches on 21 days.

The heaviest fall in 24 hours was 2·81 inches on September 2nd. This is the greatest amount so far measured at this station in 24 hours—the next highest being 2·06 inches on November 23rd, 1898.

The average yearly fall during 17 years (1885–1901) was 27·86 inches on 182 days. The rainfall of 1902 was 4·40 inches, and the number of days on which rain fell was 10, in excess of this average. Snow and sleet or hail were noticed on 8 days.

Abstract of Meteorological Observations taken at Dublin (40 Fitzwilliam-square, West) during the Year 1902.

| MONTH | Abs. Max. | Date | Abs. Min. | Date | Mean Daily Max. | Mean Daily Min. | Rainfall | Rainy Days | Mean Height of Barometer | Highest Pressure | Date | Lowest Pressure | Date | Prevailing Winds |
|-----------------------------|-----------|-----------|-----------|--------------|-----------------|-----------------|----------|------------|--------------------------|------------------|-----------|-----------------|-----------|----------------------|
| January | 55.6 | 3rd | 26.9 | 30th | 47.5 | 38.5 | 1.614 | 12 | 30.117 | 30.897 | 31st | 28.958 | 1st | W., S.W. |
| February | 54.4 | 28th | 22.0 | 12th | 43.5 | 35.0 | 1.748 | 10 | 29.815 | 30.825 | 1st | 28.950 | 26th | S.S.E., W. |
| March | 58.7 | 17th | 32.8 | 24th | 52.5 | 40.9 | 1.752 | 21 | 29.785 | 30.196 | 16th | 28.847 | 24th | W., S.W. |
| April | 61.7 | 24th | 33.0 | 10th | 53.7 | 40.4 | 2.061 | 16 | 29.919 | 30.340 | 29th | 29.112 | 22nd | N.E., N.W. |
| May | 67.9 | 24th | 36.0 | 7th | 56.4 | 43.4 | 2.798 | 22 | 30.023 | 30.503 | 25th | 29.224 | 17th | N., W.N.W. |
| June | 74.7 | 25th | 42.1 | 10th | 62.7 | 50.6 | 2.371 | 17 | 29.893 | 30.213 | 24th | 29.490 | 20th | N.E., S.E. |
| July | 74.8 | 13th | 45.1 | 21st | 65.8 | 53.3 | 3.163 | 17 | 30.027 | 30.240 | 5th | 29.194 | 26th | N.W., W. |
| August | 71.2 | 18th | 44.8 | 4th and 11th | 64.4 | 52.3 | 2.949 | 18 | 29.908 | 30.225 | 1st | 29.496 | 18th | N.W., N.E., W. |
| September | 69.0 | 22nd | 41.6 | 18th | 62.2 | 50.0 | 2.969 | 15 | 30.042 | 30.504 | 28th | 29.141 | 3rd | N.E., W. |
| October | 61.5 | 12th | 40.3 | 17th | 56.1 | 47.2 | 3.053 | 23 | 29.974 | 30.410 | 23rd | 29.180 | 15th | E.N.E., W.N.W., S.W. |
| November | 58.9 | 1st | 35.2 | 27th | 52.1 | 42.8 | 3.331 | 18 | 29.746 | 30.287 | 2nd | 29.060 | 8th | S.E., W. |
| December | 58.0 | 17th | 29.6 | 7th | 47.9 | 40.2 | 1.563 | 13 | 29.991 | 30.533 | 4th | 28.871 | 29th | W., S.E. |
| Extremes, Totals, and Means | 74.8 | July 13th | 22.0 | Feb. 12th | 55.4 | 44.6 | 29.375 | Days 203 | 29.937 | 30.897 | Jan. 31st | 28.847 | Mar. 24th | W., N.E. |
| | | | | | 50.0 | | | | | | | | | |

JOHN WILLIAM MOORE, B.A., M.D., Univ. Dubl.; F.R.C.P.I.;

F. R. Met. Soc.

January 1, 1903.

PERISCOPE.

THE RATIONAL TREATMENT OF HAY FEVER.

IN the *Laryngoscope* for August, 1902, Dr. G. B. Hope has an article on this subject. In the course of his remarks he says that there are three imperative connecting links in the chain of hay fever—viz., the predisposing constitutional or neurotic state; the exciting irritant cause of whatever nature—whether pollen dust, or atmospheric conditions, prevalent at a certain season; and thirdly, some physical alteration of the intra-nasal structure. In some cases, he says, the treatment of enlarged inferior turbinals, the removal of spurs and septal deviations, has brought about a great diminution of symptoms, if not a complete cure; but in the majority of cases the results are not so satisfactory, and little real relief has been experienced. In these cases he would have us turn our attention to the middle turbinal, whose structure and function differ materially from that of the inferior, forming as it does a large part of the ethmoid bone, covered with a very delicate and highly sensitive mucous membrane, and lying in a narrow space bounded by unyielding walls, where on the slightest swelling it is subject to considerable pressure. He then goes on to mention the relationship of asthma and vaso-motor derangements to hay fever, and recites shortly the early views held as to the causation, which may be briefly summed up in the saying of Morel Mackenzie, "That pollen is the essential factor in the case of those who possess the peculiar predisposition." He concludes his paper by quoting some cases where relief was obtained by removal of the anterior end of the middle turbinal, and shows that by this simple procedure alleviation at least may be hoped for in some of these most distressing cases.

REPORT OF A CASE IN WHICH LARYNGEAL SYMPTOMS COMPLICATED PURPURA HÆMORRHAGICA.

DR. JOSEPH T. GIBBS reports in the Proceedings of the American Laryngological, Rhinological, and Otological Society, as reported in the *Laryngoscope* for September, 1902, a case in which laryngeal symptoms complicated purpura hæmorrhagica. The patient was a man of forty-two, who had been well up to three weeks before admission to Hospital on Nov. 3, 1901. At that time he had been vaccinated, and ten days later the legs became swollen and a

hæmorrhagic rash appeared upon them. About this time there was a bloody discharge from the bowel. There were subsequently crops of hæmorrhagic spots, and eventually the urine became bloody. On Dec. 29 Dr. Gibbs had first seen him, because of an attack of dyspnœa and crowing respiration that had existed for 36 hours. The entire larynx was red; the breath-sounds were weak, and there was marked laryngeal stenosis. On the following day after vomiting much chocolate-coloured mucus, the breath-sounds became nearly normal and the larynx then showed less infiltration, and the surface of the mucous membrane was covered with fluid blood. An application of cocaïn and adrenalin gave marked but temporary relief, the hæmorrhage recurring, and the patient dying the next day of exhaustion. Evidently the dyspnœa was due to hæmorrhagic œdema of the submucosa of the larynx, similar to the subcutaneous purpuric spots in simple cases. The relation of the illness to the vaccination was interesting, but by no means clear. The possible relation between the adrenalin and the last hæmorrhage was also worthy of consideration.

VERATRUM VIRIDE IN THE TREATMENT OF TETANUS.

H. B. SWEETSER (*North-Western Lancet*) reports the successful treatment of tetanus by tincture of veratrum viride. He wishes to emphasise the following points:—(1) To put on record a recovery from a severe and grave case of tetanus, under the administration of drugs, the ascertained physiological action of which is directly antagonistic to the action of the tetanus toxins, both poison and antidote affecting in opposite ways the same structures—the anterior horns of the spinal cord. (2) To call attention to the fact that chloral is a dangerous drug, which is even more liable to exert its poisonous effects when given during the course of so dangerous a disease than when given in health. (3) Some deaths ascribed to tetanus are really due to the effects of the remedies used.

TOTAL EXTIRPATION OF THE BLADDER AND ALL THE GENITAL ORGANS.

M. HOGGE reports (*Gaz. Heb. de M. et de Ch.*) the following case:—In the year 1896, he, through a hypogastric incision, ablated a voluminous papilloma from the base of the bladder. Recurrence took place, and in 1898 another operation was performed—Perineal incision, detachment of the bulb, prostate, seminal vesicles on one hand, of the rectum, of the anal sphincter on the other; symphyseotomy; separation of the pubis; detachment of the

perivesical peritoneum, and the seminal vesicles ; ligature of the lower ends of the ureters ; the removal in a mass of the bladder, prostate, vesicles, and external genitals ; suture of the pubis with silver, and cutaneous suture of the abdominal wall. The results were satisfactory. Three years later the patient is in a very fair condition. The kidneys are only moderately diseased, and urine escapes through a perineal fistula, the transplantation of the ureters into the rectum not being maintained.

THE CRUSADE AGAINST CONSUMPTION.

As a result of the enterprise of the Glasgow District Lunacy Board, on Tuesday, December 16, 1902, the Gartloch Sanatorium for Insane Consumptives, and on Thursday, December 18, the Sanatorium erected at Woodilee, Lenzie, for the same purpose, were formally opened. In both cases the principle of erection has been the same—namely, the provision of a comparatively inexpensive suite of buildings suitable for the open-air treatment of consumptive lunatics.

The General Lunacy Board for Scotland sanctioned the erection of these Sanatoria in June last, and within the brief space of 16 weeks the buildings were handed over to the Council ready for occupancy, the cost being about one-third that of a stone erection. So satisfied is the Board with the substantial and comfortable appearance and the promise of durability which these buildings present that they have recommended the Edinburgh District Board to adopt the Woodilee design as part of the scheme at Bangour Asylum extension. Dr. Fraser, one of the Commissioners of Lunacy, writing about these additions, said that the provision of a separate hospital for patients that were subject to an infective malady was a distinct advance in the treatment and classification of the insane, and the District Board were to be congratulated in being the pioneers in Scotland in such an important matter.

The buildings at Gartloch are situated on a sloping hill, facing the Asylum, and form one long stretch of about 400 feet. The general appearance of the buildings is pleasing, verandahs along the front giving a breezy effect to the exterior. The type of construction employed throughout is a new departure in the erection of Sanatoria. It is of a composite iron and wood character, on a system of air-spaced walls, patented by the designers of the buildings, Messrs. Speirs & Co., Glasgow. On each side of the central administrative double-story block stretch the patients'

dormitories and single rooms, which are large, airy, and of a liberal cubic capacity. An interesting feature of the method of construction is the interior covering, which is of a peculiar *papier maché* composition, and presents a surface like plaster, absolutely non-porous and jointless, and a perfect sanitary medium for disinfection. The various dormitories and rooms are heated with radiators and hot water pipes, and are lighted throughout with electricity. The sanitary appliances are ample.

The Woodilee Sanatorium, like Gartloch, was designed and erected by Messrs. Speirs & Co., Glasgow. The construction is similar, but the buildings in this case are pleasantly grouped over the site and erected in the Swiss chalet style. Accommodation has been provided in all for about one hundred and sixty patients, and the total cost approximates £100 per bed.

STRYCHNIN: EVIL OF OVERDOSAGE.

DR. R. G. CURTIN—(*Therapeutic Gazette*) writes:—Strychnin is a stimulant, and too much stimulation is followed by weakness from exhaustion. In chronic diseases of the heart in elderly persons he thinks it is decidedly injurious. He trusts to alcohol and digitalis—digitalis, because of its remote as well as its immediate effects; alcohol, because in addition to its being a diffusible stimulant to the circulation, it is, in his opinion, a valuable tissue food. Strychnin fulfils neither of these important offices. It cannot be classed as a food, and it does not cause the slow, full, and ventricular contraction observed after the use of digitalis.

ESSENTIAL ANASARCA.

SIGNOR P. BACIALLI (*La Riforma Medica*) reports the case of a woman who became affected with anasarca after falling into cold water. There was hypophonesis of the respiratory apparatus without indication of any inflammatory process, and a slight increase in the size of the liver and of the spleen. There was no possibility of bacterial toxæmia in the case. The author holds that the sudden chilling and fright acted as a stimulus to the central and peripheral nervous system, inducing a double action—one on the small blood vessels, causing hyperæmia and a serous infiltration, and the other on the renal circulation, diminishing and almost suppressing the secretion of water and salts.

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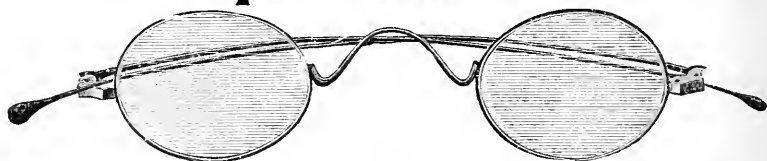
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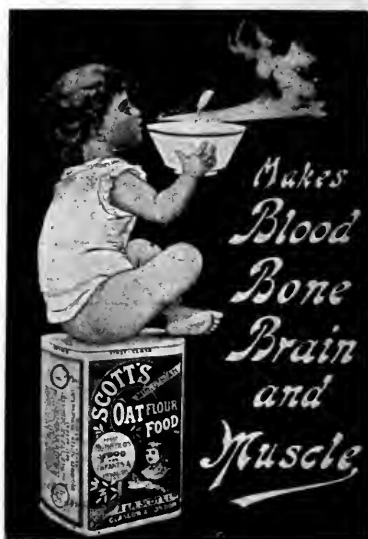
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